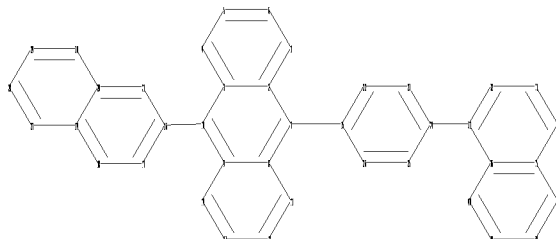
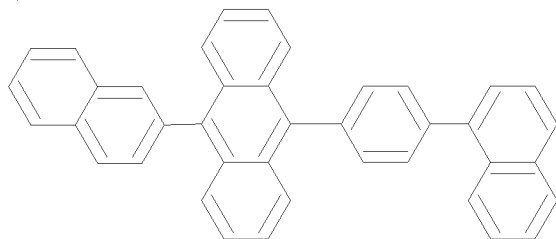


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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
chain bonds :
7-15 10-16 24-31
ring bonds :
1-2 1-6 2-3 2-7 3-4 3-10 4-5 5-6 7-8 8-9 8-11 9-10 9-14 11-12 12-13 13-14 15-22 15-26 16-17 16-21 17-18 18-19 19-20 19-27 20-21 20-30 22-23 23-24 24-25 25-26 27-28 28-29
29-30 31-32 31-36 32-33 33-34 34-35 35-36 35-37 36-40 37-38 38-39 39-40
exact bonds :
7-15 10-16 24-31
normalized bonds :
1-2 1-6 2-3 2-7 3-4 3-10 4-5 5-6 7-8 8-9 8-11 9-10 9-14 11-12 12-13 13-14 15-22 15-26 16-17 16-21 17-18 18-19 19-20 19-27 20-21 20-30 22-23 23-24 24-25 25-26 27-28 28-29
29-30 31-32 31-36 32-33 33-34 34-35 35-36 35-37 36-40 37-38 38-39 39-40
isolated ring systems :
containing 1 : 15 : 16 : 31 :
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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom 33:Atom 34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom 40:Atom

L1 STRUCTURE UPLOADED

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SEARCH TIME: 00.00.01
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                        BATCH **COMPLETE**
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PROJECTED ANSWERS: 0 TO 0
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=> s 13

L4 61 L3

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5 ELECTROLUMINESCENSE
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L5 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2009:828397 CAPLUS [Full text](#)

Document Number

151:136198

Title

Organic electroluminescence device using indenoperylene derivative

Author/Inventor

Kawamura, Yuichiro; Saito, Hiroyuki; Ikeda, Kiyoshi

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

Jpn. Kokai Tokkyo Koho, 121pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2009152528	A	20090709	JP 2008-178498	20080708
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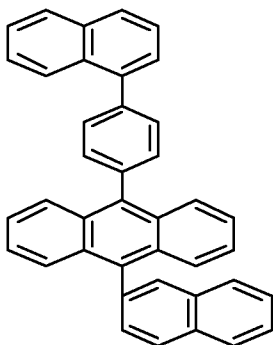
Abstract

The invention relates to an organic electroluminescent device comprising an interface-improving layer, a hole transport layer, and electroluminescent layer, fabricated in that order between an anode and a cathode, wherein the interface-improving layer contains an indenoperylene represented by I or II [R1-20 = H, C6-50 aromatic residues, heteroarom. residues containing 5-50 atoms, and C1-50 alkyl].

Hit Structure

CAS Registry Number
667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



. L5 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2009:797998 CAPLUS [Full-text](#)

Document Number

151:111544

Title

Aromatic amine derivatives and organic electroluminescence device using the same

Author/Inventor

Yabunouchi, Nobuhiro; Kawamura, Masahiro

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

U.S. Pat. Appl. Publ., 29pp. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20090167161	A1	20090702	US 2008-198497	20080826
WO 2009084268	A1	20090709	WO 2008-JP64750	20080819

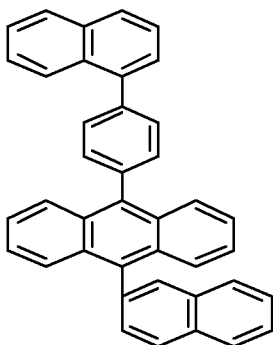
Abstract

Provided are an organic electroluminescence device and an aromatic amine derivative for realizing the device. The aromatic amine derivative improves the luminous efficiency of an organic electroluminescence device using the derivative, and its mols. hardly crystallize. The organic electroluminescence device has an organic thin film layer composed of one or a plurality of layers including at least a light emitting layer, the organic thin film layer being interposed between a cathode and an anode, and at least one layer of the organic thin film layer, especially a hole transporting layer contains the aromatic amine derivative alone or as a component of a mixture, so the organic electroluminescence device can be produced in improved yield, and has a long lifetime.

Hit Structure

CAS Registry Number
667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



L5 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:1464280 CAPLUS [Full-text](#)

Document Number

151:159467

Title

Emitting materials for organic **electroluminescence** devices

Author/Inventor

Anon.

Patent Assignee/Corporate Source

Germany

Source

IP.com Journal (2008), 8(10B), 16-17 (No. IPCOM000175552D), 13 Oct 2008 CODEN: IJPOBX; ISSN: 1533-0001

Document Type

Journal; Patent

Language

German

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	IP 175552D	20081013	IP 2008-175552D	20081013

Abstract

Organic semiconductors are presented, and their application in **electroluminescence** devices is discussed. Especially, aromatic amines are treated derived from monobenzoindenofluorene. They are used as hole injection and hole transport material as well as emitting material. When the monobenzoindenofluorene unit is substituted with 1 or 2 diarylamino groups, the resulting compds. are especially suitable for applications in the organic **electroluminescence** devices. These compds. can act as efficient emitters, when they are applied as a dopant for host materials derived from anthracene. Two-hundred and sixty-four compds. in combination with 30 host materials were tested for their performance in organic light-emitting diodes.

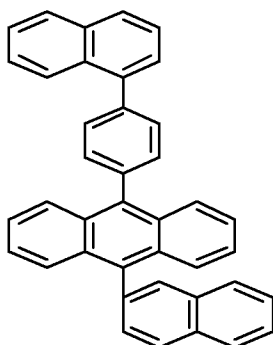
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CAS Registry Number

667940-34-3 CAPLUS

Chemical or Trade Name

Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



L5 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:1361584 CAPLUS [Full-text](#)

Document Number

148:20800

Title

White-emitting organic **electroluminescence** device satisfying an ionization potential relationship for carrier barrier layer and first emitting layer

Author/Inventor

Jinde, Yukitoshi; Kuma, Hitoshi

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

U.S. Pat. Appl. Publ., 34 pp. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070273270	A1	20071129	US 2006-475081	20060627
WO 2007138906	A1	20071206	WO 2007-JP60345	20070521
EP 1933397	A1	20080618	EP 2007-743779	20070521
JP 4134280	B2	20080820	JP 2008-517846	20070521
KR 2008044851	A	20080521	KR 2008-705360	20080304
CN 101405887	A	20090408	CN 2007-80009536	20080917

Abstract

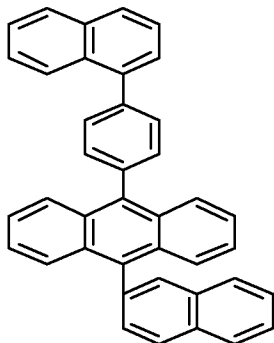
An organic electroluminescent device including an anode, a first emitting layer, a carrier barrier layer, a second emitting layer, and a cathode stacked in that order. The first emitting layer is formed of a hole transporting material, and the second emitting layer is formed of an electron transporting material. The affinity level of the carrier barrier layer is smaller than the affinity level of the second emitting layer in an amount of 0.2 eV or more, and the ionization potential (Ie1) of the carrier barrier layer and the ionization potential (Ih1) of the first emitting layer satisfy $Ie1 < Ih1 + 0.1$ (eV). Thus, an OLED was fabricated as follows: {ITO (130 nm)}/{HI film (60 nm, I)}/{HT film (15 nm, 4,4'-bis[bis(4-biphenyl)amino]biphenyl)}/{first red-emitting layer [red host, Eg 2.4 eV, 5,12-bis(2,4-diphenylphenyl)terracene; red dopant = II, total thickness 5 nm such that dopant concentration was 0.5 wt %]}/{carrier barrier layer (5 nm, HT film, Ip/Af (eV) = 5.36/2.3)}/{second blue-emitting layer with Ip/Af (eV) = 5.8/2.8 [blue host = 9-(2-naphthyl)-10-[4-(1-naphthyl)phenyl]anthracene; blue dopant = III, total thickness 40 nm such that dopant concentration was 7.5 wt %]}/{ET layer Alq3 (20 nm)}/{EI layer LiF (1.6 nm)}/{Al cathode (150 nm)} in which red emission + blue emission + a carrier barrier layer with a small affinity level were provided, yielding excellent white emission (x, y) = (0.27, 0.26) with external quantum efficiency of 7.6%; the comparative example that lacked the barrier layer exhibited CIE1931 chromaticity (x, y) = (0.5, 0.31), e.g., significantly apart from white (0.33, 0.33), so that red became strong and white could not be obtained.

Hit Structure

CAS Registry Number

667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX
NAME)



.L5 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:1332304 CAPLUS [Full-text](#)
Document Number
147:531191

Title
Organic **electroluminescence** element
Author/Inventor
Kuma, Hitoshi; Yamamoto, Hiroshi; Hosokawa, Chishio
Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 69 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007132704	A1	20071122	WO 2007-JP59564	20070509
EP 2034803	A1	20090311	EP 2007-742999	20070509
KR 2009007749	A	20090120	KR 2008-727476	20081110
US 20090206736	A1	20090820	US 2008-300132	20081110
CN 101444141	A	20090527	CN 2007-80017062	20081111

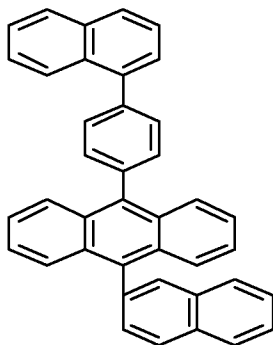
Abstract

In an organic EL element, at least two organic light emitting layers are arranged between an anode and a cathode, and at least one intermediate connecting layer is arranged between the organic light emitting layers. In the intermediate connecting layer, an acceptor layer, a donor layer and an electron transport material layer including an aromatic ring-compound which is not a metallic complex are laminated in this order from the side of the cathode.

Hit Structure

CAS Registry Number
667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



.L5 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:998521 CAPLUS [Full-text](#)
Document Number
147:334331

Title
Red organic **electroluminescence** element

Author/Inventor
Ikeda, Kiyoshi; Ito, Mitsunori
Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 59pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007099802	A1	20070907	WO 2007-JP52957	20070219
KR 2008098376	A	20081107	KR 2008-720457	20080821
US 20090033218	A1	20090205	US 2008-280475	20081001

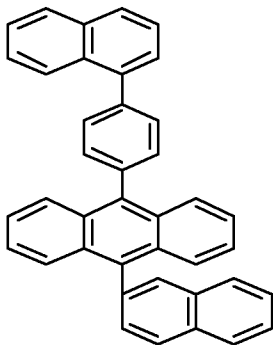
Abstract

There is provided an organic **electroluminescence** element in which a single or a plurality of thin organic layers including at least a light-emitting layer are sandwiched between a neg. electrode and a pos. electrode. At least one of the thin organic layers includes: (A) a perylene compound having at least one halogen atom in its mol.; and (B) a compound having a fused aromatic ring with a nucleus C number of 12 to 15. The organic EL element has a high light-emitting efficiency and a long lifetime and can emit orange to red light.

Hit Structure

CAS Registry Number
667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



.L5 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:793551 CAPLUS [Full-text](#)

Document Number

147:166040

Title

Preparation of aromatic amine derivatives for organic electroluminescent devices

Author/Inventor

Yabunouchi, Nobuhiro; Moriwaki, Fumio

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 61pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007080704	A1	20070719	WO 2006-JP322710	20061115
JP 2007186461	A	20070726	JP 2006-6453	20060113
US 20070167654	A1	20070719	US 2006-371086	20060309
EP 1972613	A1	20080924	EP 2006-832641	20061115
KR 2008083148	A	20080916	KR 2008-716928	20080711
CN 101370768	A	20090218	CN 2006-80050997	20080714

Abstract

This invention pertains to a method for producing aromatic amine derivs. I [wherein R1-R7 = independently H, (un)substituted aryl, alkyl, etc.; m, mm, n, nn, p, pp, q = independently 0-4; qq = 1-3; Ar1 and Ar2 = independently (un)substituted aryl] useful in organic electroluminescent devices which are lowered in the driving voltage and have long lifetimes. For example, the compound II was prepared in a multi-step synthesis. II showed good electroluminescent properties.

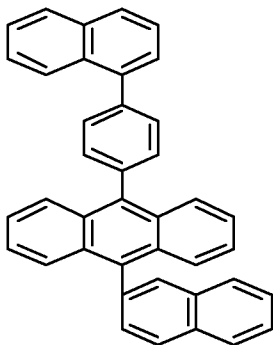
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CAS Registry Number

667940-34-3 CAPLUS

Chemical or Trade Name

Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT:

2

THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(4 CITINGS)

.L5 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:286585 CAPLUS [Full-text](#)

Document Number

146:326093

Title Method for producing aromatic compound and aromatic compound
 Author/Inventor Moriwaki, Fumio; Matsunami, Hidehiro; Inoue, Tetsuya
 Patent Assignee/Corporate Source Idemitsu Kosan Co., Ltd., Japan
 Source U.S. Pat. Appl. Publ., 21pp. CODEN: USXXCO
 Document Type Patent
 Language English
 Patent Information

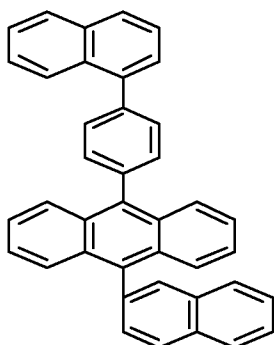
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070060777	A1	20070315	US 2006-473178	20060623
US 7547809	B2	20090616		
JP 2007077078	A	20070329	JP 2005-267409	20050914
WO 2007032131	A1	20070322	WO 2006-JP312111	20060616
EP 1947076	A1	20080723	EP 2006-766799	20060616
CN 101263097	A	20080910	CN 2006-80033108	20080310
KR 2008046657	A	20080527	KR 2008-706132	20080313
IN 2008CN01256	A	20081128	IN 2008-CN1256	20080313
US 20090206748	A1	20090820	US 2009-432093	20090429

Abstract
 A process for producing an aromatic compound which can effectively decrease the contents of halogen elements in the aromatic compound and an aromatic compound which is produced in accordance with the process and useful as the material for obtaining an organic **electroluminescence** device having a long life are provided. The process for producing an aromatic compound comprises bringing an aromatic compound which is produced via an intermediate compound having halogen elements and has contents of halogen elements of 10 to 1,000 ppm by mass into reaction with a dehalogenating agent to decrease the contents of halogen elements to 10 ppm by mass or smaller, and an aromatic compound which is produced in accordance with the process.

Hit Structure

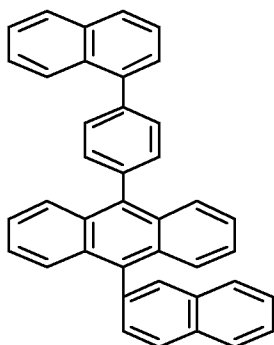
CAS Registry Number
 667940-34-3 CAPLUS

Chemical or Trade Name
 Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



CAS Registry Number
 667940-34-3 CAPLUS

Chemical or Trade Name
 Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



.L5 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:1012626 CAPLUS [Full-text](#)

Document Number

145:365969

Title

Aromatic amine derivative and organic **electroluminescence** device employing the same

Author/Inventor

Kawamura, Masahiro; Yabunouchi, Nobuhiro; Hosokawa, Chishio

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

U.S. Pat. Appl. Publ., 45pp. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060217572	A1	20060928	US 2006-362159	20060227
WO 2006103848	A1	20061005	WO 2006-JP303157	20060222
US 20080176101	A1	20080724	US 2008-53002	20080321

Abstract

To provide an organic electroluminescent device showing various luminescent color tones and having high heat resistance, a long lifetime, high emission luminance, and high emission efficiency, in particular, an organic electroluminescent device capable of preventing the attenuation of emission luminance in association with the driving of the device is provided. Provided is an organic electroluminescent device including: an aromatic amine compound Ar1Ar2NL1N(Ar3)L2N(Ar4)L3NAr5Ar6 [Ar1-Ar6 are each independently an (un)substituted aryl group having 6-20 nuclear atoms. L1-L3 are each independently (un)substituted 1,1'-biphenyl-4,4'-diyl linking groups, wherein Ar1-Ar6 satisfy one of the following conditions: (a) at least two of Ar1-Ar3 each represent an (un)substituted C10-C20 fused aromatic ring; (b) at least one of Ar3 and Ar4 represents an (un)substituted C10-C20 fused aromatic ring; (c) only one of Ar1, Ar2, Ar5, and Ar6 represents an (un)substituted C10-C20 fused aromatic ring]; a cathode; an anode; and one or multiple organic thin film layers having at least a light-emitting layer, the one or multiple organic thin film layers being interposed between the cathode and the anode, in which at least one layer of the one or multiple organic thin film layers contains the aromatic amine compound alone or as a component of a mixture. Thus, e.g., coupling reaction of 4-[(1-naphthyl)phenylamino]-4'-iodo-1,1'-biphenyl (preparation given) with N,N'-di(1-naphthyl)-4,4'-benzidine (preparation given) afforded TA-2 (I) that was incorporated into the following blue-emitting electroluminescent device: ITO (anode, 1.1 nm)/TA-2 (hole-transporting layer, 80 nm)/EM1 + D1 (40:2, light-emitting layer, 40 nm, where EM1 = 9-[4-(1-naphthyl)phenyl]-10-(2-naphthyl)anthracene, D1 = 4,4'-bis(di-2-naphthylamino)stilbene)/Alq (electron injecting layer, 10 nm)/Alq:Li (electron injecting layer, 10 nm)/Al (cathode) that exhibited half-life of initial luminance of 5000 cd/m² of 350 h vs. 120 h when ta-1 (analog of I in which all 1-naphthyl groups are replaced with Ph groups) was used instead of I.

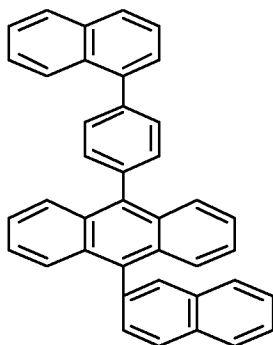
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CAS Registry Number

667940-34-3 CAPLUS

Chemical or Trade Name

Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



.L5 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:1005056 CAPLUS [Full-text](#)

Document Number

143:295337

Title

Organic **electroluminescence** display device

Author/Inventor

Yamamichi, Keiko; Fukuoka, Kenichi; Yuasa, Kimihiro; Hosokawa, Chishio; Kuma, Hitoshi

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 70 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005086539	A1	20050915	WO 2005-JP2558	20050218
EP 1722604	A1	20061115	EP 2005-710391	20050218
CN 1914958	A	20070214	CN 2005-80004027	20050218
CN 100484356	C	20090429		
KR 2006135795	A	20061229	KR 2006-717904	20060904
US 20070200123	A1	20070830	US 2006-591688	20060905

Abstract

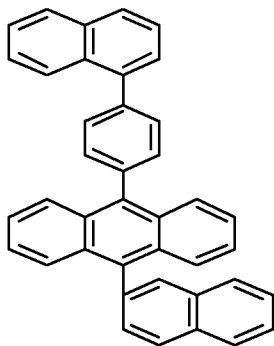
An organic EL display device has a substrate, and a first organic EL element part and a second organic EL element part which are arranged in parallel on the same plane of the substrate. The first organic EL element part at least includes a light reflecting conductor layer, an organic light emitting medium layer and a transparent electrode layer in this order, and inside or outside of the organic light emitting medium layer or the transparent electrode layer, a light reflecting layer is provided. The second organic EL element part at least includes the light reflecting conductor layer, a first inorg. compound layer, an organic light-emitting medium layer and a transparent

electrode layer in this order, and inside or outside of the organic light-emitting medium layer or the transparent electrode layer, the light reflecting layer is provided. The emission spectrum of light emitted from the first organic EL element part and that from the second organic EL element part are different.

Hit Structure

CAS Registry Number
667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

_L5 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2005-962579 CAPLUS [Full-text](#)

Document Number
143:256816

Title
White organic electroluminescence device

Author/Inventor
Tokairin, Hiroshi; Fukuoka, Kenichi; Kubota, Mineyuki; Funahashi, Masakazu

Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 63 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005081587	A1	20050901	WO 2005-JP2442	20050217
EP 1718124	A1	20061102	EP 2005-719244	20050217
CN 1879454	A	20061213	CN 2005-80001270	20050217
US 20070063638	A1	20070322	US 2006-573661	20060328
KR 2006115372	A	20061108	KR 2006-708168	20060427

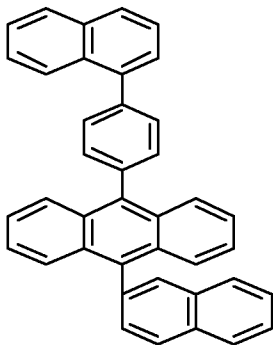
Abstract

The invention refers to a white organic electroluminescence device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more organic thin film layers including at least a light emitting layer, wherein the light emitting layer is constituted of a laminate of blue color light emitting layer and yellow-to-red color light emitting layer and contains an asym. condensed-ring-containing compound. This white color organic electroluminescence device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strikingly prolonged service life.

Hit Structure

CAS Registry Number
667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(7 CITINGS)

, L5 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2004:182956 CAPLUS [Full-text](#)

Document Number

140:243295

Title

Organic **electroluminescence** device and anthracene derivative

Author/Inventor

Ikeda, Hidetsugu; Ido, Motohisa; Funahashi, Masakazu

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 59 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018587	A1	20040304	WO 2003-JP10402	20030818
EP 1553154	A1	20050713	EP 2003-792695	20030818
CN 1678711	A	20051005	CN 2003-819888	20030818
CN 100505963	C	20090624		
TW 284485	B	20070721	TW 2003-92122650	20030818
JP 4041816	B2	20080206	JP 2004-530558	20030818
US 20060043858	A1	20060302	US 2005-524825	20050218
IN 2005CN00228	A	20070907	IN 2005-CN228	20050222
JP 2008007785	A	20080117	JP 2007-219766	20070827
JP 2008235917	A	20081002	JP 2008-106614	20080416
KR 2009035045	A	20090408	KR 2009-705383	20090316

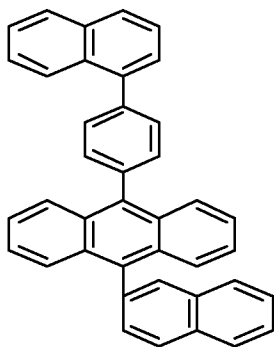
Abstract

An organic **electroluminescence** device comprises a neg. electrode and a pos. electrode and, interposed there between, one or two or more organic thin-film layers including at least a luminescent layer, wherein at least one of the organic thin-film layers contains an anthracene derivative of specified structure added alone or as a component of mixture, and an anthracene derivative of asym. specified structure. There are provided an organic **electroluminescence** device of high luminescence efficiency and long life and an anthracene derivative for realizing the same.

Hit Structure

CAS Registry Number
667940-34-3 CAPLUS

Chemical or Trade Name
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA INDEX
NAME)



OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS
RECORD (32 CITINGS)

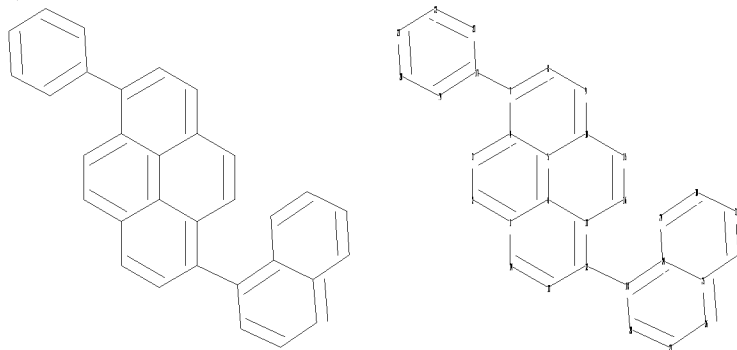
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Executing the logoff script...

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FILE 'REGISTRY' ENTERED AT 10:17:28 ON 14 OCT 2009
L1 STRUCTURE UPLOADED
D L1 FAM SAM
L2 0 SEA FILE=REGISTRY FAM SAM L1
L3 1 SEA FILE=REGISTRY FAM FUL L1
FILE 'CAPLUS' ENTERED AT 10:18:41 ON 14 OCT 2009
L4 61 SEA FILE=CAPLUS SPE=ON ABB=ON FLU=ON L3
L5 12 SEA FILE=CAPLUS SPE=ON ABB=ON FLU=ON L4 AND ELECTROLUMINESCE
NCE
D TRTR ARS HITSTR 1-

* * * * * Welcome to STN International * * * * *

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ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
chain bonds :
7-17 12-18
ring bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 24-29 25-26 25-32 26-27
27-28 29-30 30-31 31-32
exact bonds :
7-17 12-18
normalized bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 24-29 25-26 25-32 26-27
27-28 29-30 30-31 31-32
isolated ring systems :
containing 1 : 17 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom
23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom

L1 STRUCTURE UPLOADED

=> s ll sss sam
SAMPLE SEARCH INITIATED 16:54:12 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 2279 TO ITERATE
87.8% PROCESSED 2000 ITERATIONS 1 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 42717 TO 48443
PROJECTED ANSWERS: 1 TO 86

L2 1 SEA SSS SAM L1

=> s ll sss full
FULL SEARCH INITIATED 16:54:17 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 45839 TO ITERATE

100.0% PROCESSED 45839 ITERATIONS 7 ANSWERS
SEARCH TIME: 00.00.02

L3 7 SEA SSS FUL L1

=> s 17

L7 NOT FOUND

The L-number entered has not been defined in this session, or it has been deleted. To see the L-numbers currently defined in this session, enter DISPLAY HISTORY at an arrow prompt (=>).

=> s 13

L4 5 L3

=> d ibib abs hitstr 1-

YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

.L4 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:830594 CAPLUS [Full-text](#)

Document Number

149:115415

Title

Materials for light-emitting devices

Author/Inventor

Kawamoto, Kazunari; Murase, Seiichiro; Nagao, Kazuma

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 27pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008159843	A	20080710	JP 2006-347112	20061225

Abstract

The materials contain pyrene compds. (I), where R1 .apprx. R17 = H, alkyl, cyclo-alkyl or heterocyclic group; Ar = arylene or hetero-arylene group; ≥ 1 of R1 .apprx. R17 = alkyl group; R3 and/or R5 = aryl or hetero-aryl group; or R4 = alkyl or cyclo-alkyl group.

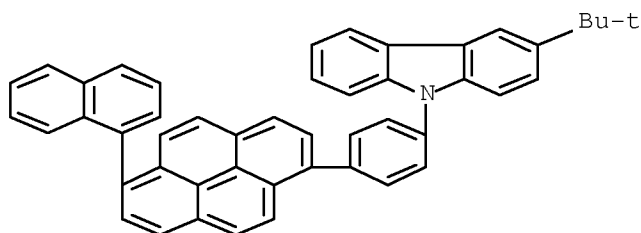
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CAS Registry Number

1035113-37-1 CAPLUS

Chemical or Trade Name

9H-Carbazole, 3-[(1,1-dimethylethyl)-9-[4-[6-(1-naphthalenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



.L4 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:780909 CAPLUS [Full-text](#)

Document Number

147:153732

Title

Pyrene-based electron transporting compounds and organic light emitting devices with decreased driving voltage comprising the electron transporting compound

Author/Inventor

Kim, Jung Kaun; Seo, Jeongdae; Jeong, Hyun Cheol; Bin, Jong Kwan; Park, Chungun

Patent Assignee/Corporate Source

Lg Electronics Inc., S. Korea

Source

Eur. Pat. Appl., 36pp. CODEN: EPXXDW

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1808912	A2	20070718	EP 2007-776	20070116
KR 681027	B1	20070209	KR 2006-4687	20060116
KR 681025	B1	20070209	KR 2006-4688	20060116
KR 681026	B1	20070209	KR 2006-4689	20060116
US 20070167626	A1	20070719	US 2007-653243	20070116
CN 101003508	A	20070725	CN 2007-10008306	20070116

Abstract

Electron transporting compound with Formula (I) and organic light emitting devices employing the electron transporting compound to decrease driving voltage are provided, where A is a substituted or unsubstituted group consisting of pyridinyl, quinolinyl, isoquinolinyl, quinoxalinyl, bipyridinyl, terpyridinyl, and phenanthrolinyl; and B and C are substituted or unsubstituted groups consisting of Ph, biphenyl, naphthyl, fluorenyl, terphenyl, phenanthrolinyl, phenanthryl, and anthryl.

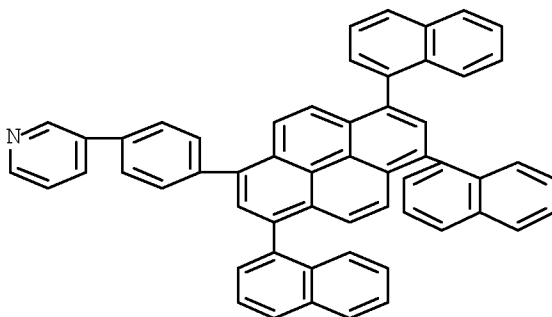
Hit Structure

CAS Registry Number

943643-43-4 CAPLUS

Chemical or Trade Name

Pyridine, 3-[4-(3,6,8-tri-1-naphthalenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:284225 CAPLUS [Full-text](#)

Document Number

146:347117

Title

Light-emitting device material and light-emitting device

Author/Inventor

Murase, Seiichiro; Nagao, Kazumasa; Sugimoto, Kazunori; Ishigaki, Takeshi; Ogawa, Takafumi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

PCT Int. Appl., 112pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007029798	A1	20070315	WO 2006-JP317810	20060908
EP 1942171	A1	20080709	EP 2006-797666	20060908
CN 101258221	A	20080903	CN 2006-80032965	20080307
US 20090096356	A1	20090416	US 2008-991461	20080326
KR 2008055891	A	20080619	KR 2008-708341	20080407

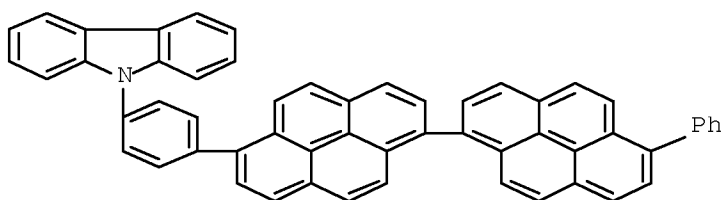
Abstract

Disclosed is a light-emitting device material containing a pyrene compound represented by I [R1-R18 = H, alkyl, cycloalkyl, heterocyclic, alkenyl, cycloalkenyl, alkynyl, alkoxy, alkylthio, aryl ether, aryl thioether, aryl, heteroaryl, halogen, carbonyl, carboxyl, oxycarbonyl, carbamoyl, amine, phosphine oxide, and a silyl; adjacent substituents among R1-R18 may combine together to form a ring; n = integer 1-3; X = -O-, -S- and -NR19- (R19 = H, alkyl, cycloalkyl, heterocyclic, alkenyl, cycloalkenyl, alkynyl, aryl, heteroaryl, and amino; R19 may form a ring together with R11 or R18); and Y = single bond, arylene and heteroarylene; and n of R1-R10 and one of R11-R19 are used for linkage with Y]. This light-emitting device material enables to provide a light-emitting device having high efficiency and excellent durability. Also disclosed is a light-emitting device using such a light-emitting device material.

Hit Structure

CAS Registry Number
929100-19-6 CAPLUS

Chemical or Trade Name
9H-Carbazole, 9-[4-(6'-phenyl[1,1'-bipyren]-6-yl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

L4 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:33414 CAPLUS [Full-text](#)

Document Number

146:121699

Title

Process for preparation of pyrene derivatives for use in organic electroluminescence devices

Author/Inventor

Ito, Mitsunori; Kubota, Mineyuki

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 62pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2007004364	A1	20070111	WO 2006-JP310194	20060523
JP 2007015961	A	20070125	JP 2005-197765	20050706
EP 1905754	A1	20080402	EP 2006-746728	20060523
US 20080124571	A1	20080529	US 2007-926813	20071029
US 7585574	B2	20090908		
CN 101213161	A	20080702	CN 2006-80024361	20080103
KR 2008027332	A	20080326	KR 2008-700282	20080104
IN 2008CN00622	A	20081128	IN 2008-CN622	20080206

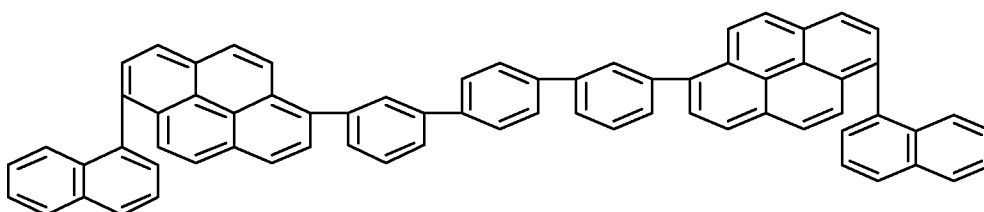
Abstract

This invention pertains to a method for producing pyrene derivs. via coupling reaction, for the use in organic electroluminescence devices comprising a neg. electrode and a pos. electrode and, interposed there between, one or two or more organic thin film layers including at least a light emitting layer, wherein at least one of the organic thin film layers contains the pyrene derivative alone or as a component of mixture. For example, the compound I was prepared in a three-step synthesis starting from pyrene-1-boronic acid and 3-bromo-1-iodobenzene in good yield. Thus, there is provided an organic electroluminescence device of high luminous efficiency capable of prolonged blue light emission.

Hit Structure

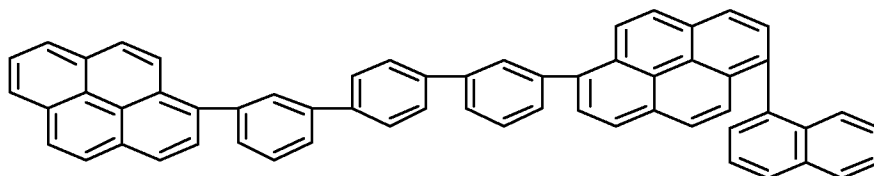
CAS Registry Number
918654-69-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1':4',1''-terphenyl]-3,3''-diylbis[6-(1-naphthalenyl)-
(CA INDEX NAME)



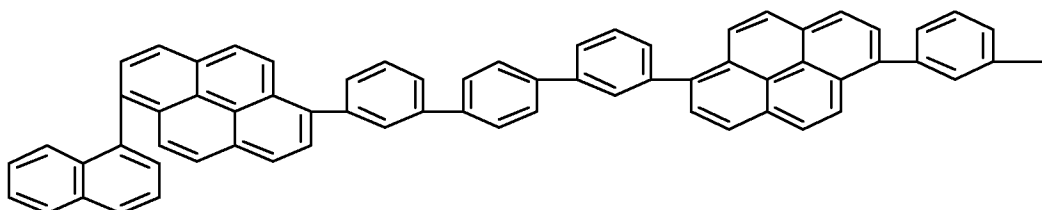
CAS Registry Number
918654-75-8 CAPLUS

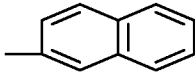
Chemical or Trade Name
Pyrene, 1-(1-naphthalenyl)-6-[3''-(1-pyrenyl)[1,1':4',1''-terphenyl]-3-yl]-
(CA INDEX NAME)



CAS Registry Number
918654-79-2 CAPLUS

Chemical or Trade Name
Pyrene, 1-(1-naphthalenyl)-6-[3''-[6-[3-(2-naphthalenyl)phenyl]-1-pyrenyl][1,1':4',1''-terphenyl]-3-yl]- (CA INDEX NAME)





OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

_L4 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2002:867325 CAPLUS [Full-text](#)

Document Number

137:377245

Title

Organic electroluminescent device containing aromatic condensed ring compound

Author/Inventor

Suzuki, Koichi; Senoo, Akihiro; Tanabe, Hiroshi

Patent Assignee/Corporate Source

Canon Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 50 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002329580	A	20021115	JP 2002-36804	20020214
JP 3870102	B2	20070117		
US 20020177009	A1	20021128	US 2002-77800	20020220
US 6830829	B2	20041214		
US 20050048318	A1	20050303	US 2004-940734	20040915
US 6994922	B2	20060207		
JP 2007013199	A	20070118	JP 2006-230669	20060828

Abstract

The electroluminescent device has >1 organic layer containing aromatic condensed ring compound a benzene substituted with R1-4 and Ar1-2 (I), a benzene substituted with R5-7 and Ar3-5 (II), or a benzene substituted with R8-9 and Ar6-9 (III) [R1-R9 = H, alkyl, (substituted)aralkyl, (substituted)aryl, (substituted)heterocycle, (substituted)amino, cyano; Ar1-Ar9 = (substituted)aromatic condensed ring, (substituted)condensed heterocycle, optionally linked via phenylene], preferably claimed compds. II (R5-R7 = H, Ar3-Ar5 = L^H at 1,3,5-positions, L = 9,9-dimethylfluorene-2,7-diyl), II (R5-R7 = H, Ar3-Ar5 = L^{2H} at 1,3,5-positions), III (R8 = R9 = H, Ar6-Ar9 = L^H at 1,2,4,5-positions), or III (R8 = R9 = H, Ar6-Ar9 = L^{2H} at 1,2,4,5-positions), as electron-transporting or light-emitting layers between a cathode and an anode. The organic layer in the device is useful as an electron-transporting layer, an emitting layer, and a hole/exciton-blocking layer and the device shows high emission, low driving voltage, and improved durability.

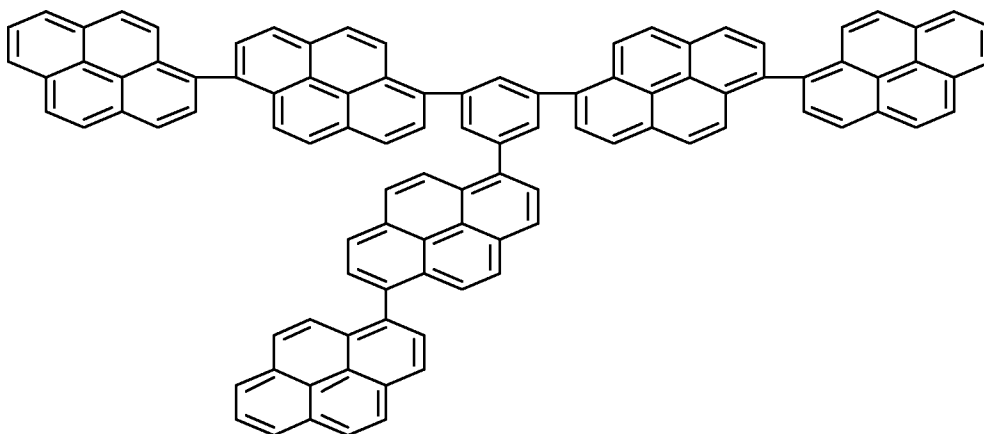
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CAS Registry Number

475460-99-2 CAPLUS

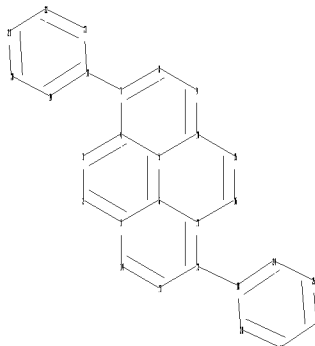
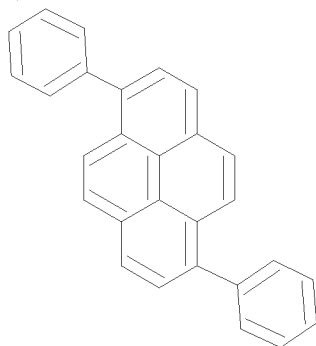
Chemical or Trade Name

1,1'-Bipyrene, 6,6'',6'''-(1,3,5-benzenetriyl)tris- (CA INDEX NAME)



OS.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS RECORD (22 CITINGS)

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ring nodes :
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chain bonds :
7-17 12-18
ring bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 25-26 26-27 27-28
exact bonds :
7-17 12-18
normalized bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 25-26 26-27 27-28
isolated ring systems :
containing 1 : 17 :

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom
23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom

L5 STRUCTURE UPLOADED

=> s 15 sss full
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FULL SCREEN SEARCH COMPLETED - 47346 TO ITERATE

100.0% PROCESSED 47346 ITERATIONS 356 ANSWERS
SEARCH TIME: 00.00.02

L6 356 SEA SSS FUL L5

=> s 16
L7 157 L6

=> 17 and electroluminescence
26090 ELECTROLUMINESCENCE
29 ELECTROLUMINESCENCES
26094 ELECTROLUMINESCENCE
 (ELECTROLUMINESCENCE OR ELECTROLUMINESCENCES)
5 ELECTROLUMINESCENSE
26095 ELECTROLUMINESCENCE
 (ELECTROLUMINESCENCE OR ELECTROLUMINESCENSE)

L8 14 L7 AND ELECTROLUMINESCENCE

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YOU HAVE REQUESTED DATA FROM 14 ANSWERS - CONTINUE? Y/(N):y

L8 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2009-920965 CAPLUS [Full-text](#)

Document Number
151:159940

Title
Organic electroluminescent device allowing adjustment of chromaticity

Author/Inventor
Kinoshita, Masaru
Patent Assignee/Corporate Source
Fuji Photo Film Co., Ltd., Japan

Source
U.S. Pat. Appl. Publ., 13pp. CODEN: USXXCO

Document Type
Patent

Language
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20080185971	A1	20080807	US 2006-579061	20061027
TW 267822	B	20061201	TW 2004-93112026	20040429
WO 2005106835	A1	20051110	WO 2004-JP6354	20040430
CN 1977301	A	20070606	CN 2004-80042922	20040430
KR 2007020051	A	20070216	KR 2006-724970	20061128
KR 836542	B1	20080610		

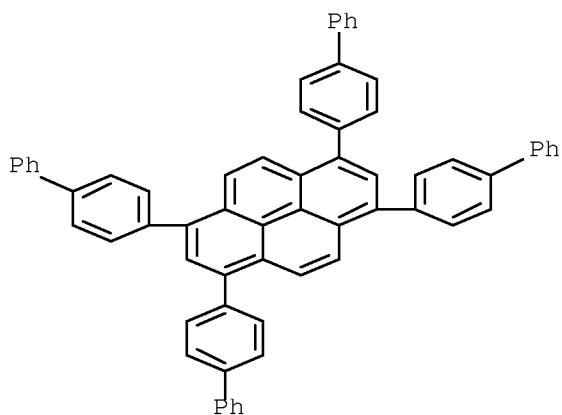
Abstract

Organic electroluminescent devices comprising an organic electroluminescent element comprising electrodes with an organic electroluminescent layer emitting white light at a chromaticity corresponding to a drive c.d. provided between the electrodes; and a drive unit driving the organic **electroluminescence** element by application of current or voltage and controlling the drive current and the period the current or voltage is applied per unit of time according to a chromaticity adjustment input, wherein in response to a first chromaticity adjustment input the drive unit controls, resp., the drive current or voltage to be a first current or voltage and the application period to be a first period, and in response to a second chromaticity adjustment input the drive unit controls, resp., the drive current or voltage to be a second current or voltage larger than the first current or voltage and the application period to be a second period shorter than the first period. Emission chromaticity can be adjusted while the brightness is kept constant. A liquid crystal display device employing an organic electroluminescent device as a backlight unit are also described.

Hit Structure

CAS Registry Number
790273-07-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

L8 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:418321 CAPLUS [Full-text](#)

Document Number

148:437036

Title

Electroluminescent device material and electroluminescent device

Author/Inventor

Sugimoto, Kazunori; Murase, Seiichiro

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 29pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008078362	A	20080403	JP 2006-255439	20060921

Abstract

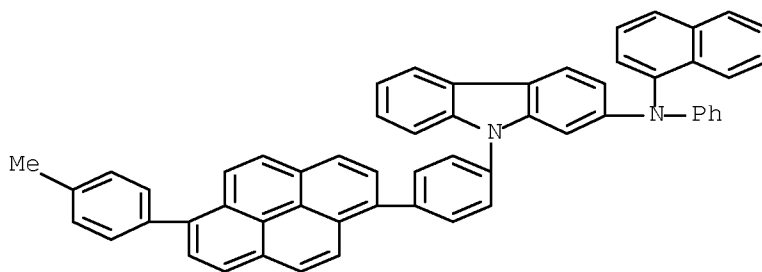
The invention relates to an electroluminescent device material, suited for use as an **electroluminescence** host material and a charge transporting material in an electroluminescent device, comprising a pyrene derivative represented by I [R1-17 = H, alkyl, cycloalkyl, etc.; Ar1 = arylene and heteroarylene; Ar2 and Ar3 = aryl, heteroaryl and may join to form a ring; X = direct bond, arylene, and heteroarylene; n = 1-4 integer; and X may be linked at R10-17].

Hit Structure

CAS Registry Number
1013661-59-0 CAPLUS

Chemical or Trade Name

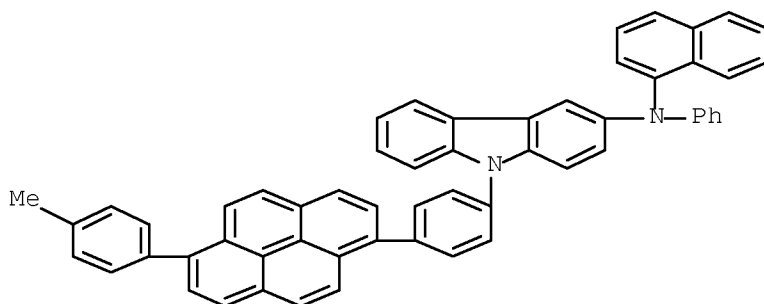
9H-Carbazol-2-amine, 9-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]-N-1-naphthalenyl-N-phenyl- (CA INDEX NAME)



CAS Registry Number
1013661-61-4 CAPLUS

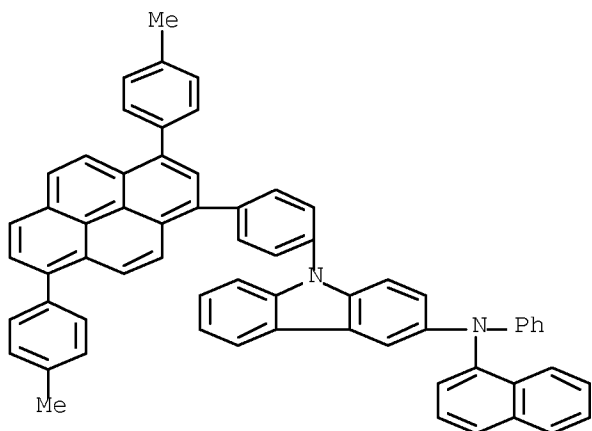
Chemical or Trade Name

9H-Carbazol-3-amine, 9-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]-N-1-naphthalenyl-N-phenyl- (CA INDEX NAME)



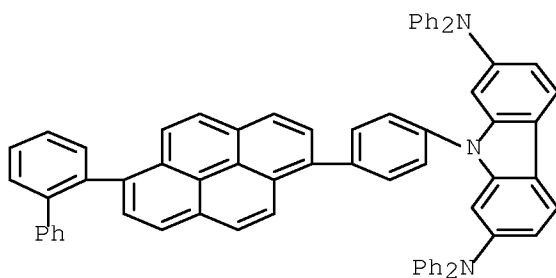
CAS Registry Number
1013661-65-8 CAPLUS

Chemical or Trade Name
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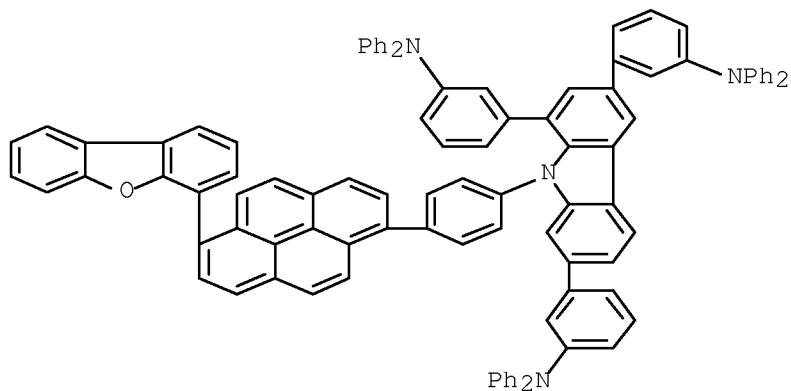
CAS Registry Number
1013661-66-9 CAPLUS

Chemical or Trade Name
9H-Carbazol-2,7-diamine, 9-[4-(6-[1,1'-biphenyl]-2-yl-1-pyrenyl)phenyl]-N2,N2,N7,N7-tetra-phenyl- (CA INDEX NAME)



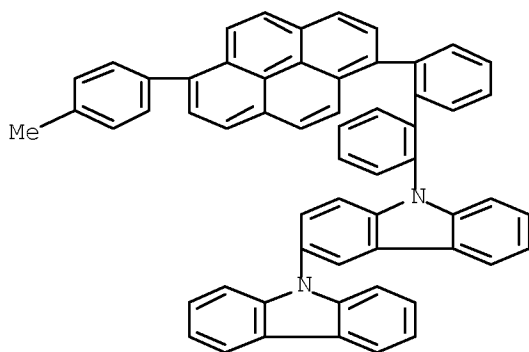
CAS Registry Number
1013661-67-0 CAPLUS

Chemical or Trade Name
Benzenamine, 3,3',3''-[9-[4-[6-(4-dibenzofuranyl)-1-pyrenyl]phenyl]-9H-carbazole-1,3,7-triyl]tris[N,N-diphenyl- (CA INDEX NAME)



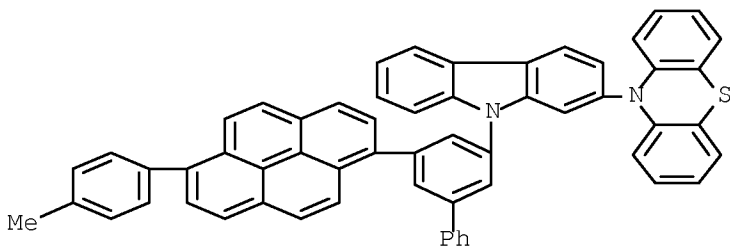
CAS Registry Number
1013661-70-5 CAPLUS

Chemical or Trade Name
3,9'-Bi-9H-carbazole, 9-[2'-[6-(4-methylphenyl)-1-pyrenyl][1,1'-biphenyl]-2-yl]- (CA INDEX NAME)



CAS Registry Number
1013661-71-6 CAPLUS

Chemical or Trade Name
10H-Phenothiazine, 10-[9-[5-[6-(4-methylphenyl)-1-pyrenyl][1,1'-biphenyl]-3-yl]-9H-carbazol-2-yl]- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

L8 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:1332304 CAPLUS [Full Text](#)

Document Number

147:531191

Title

Organic electroluminescence element

Author/Inventor

Kuma, Hitoshi; Yamamoto, Hiroshi; Hosokawa, Chishio
Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 69 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007132704	A1	20071122	WO 2007-JP59564	20070509
EP 2034803	A1	20090311	EP 2007-742999	20070509
KR 2009007749	A	20090120	KR 2008-727476	20081110
US 20090206736	A1	20090820	US 2008-300132	20081110
CN 101444141	A	20090527	CN 2007-80017062	20081111

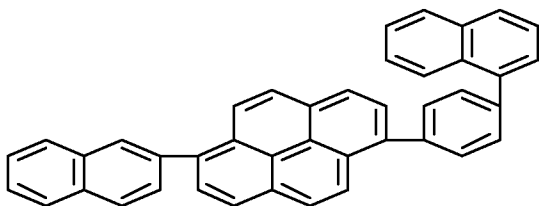
Abstract

In an organic EL element, at least two organic light emitting layers are arranged between an anode and a cathode, and at least one intermediate connecting layer is arranged between the organic light emitting layers. In the intermediate connecting layer, an acceptor layer, a donor layer and an electron transport material layer including an aromatic ring-compound which is not a metallic complex are laminated in this order from the side of the cathode.

Hit Structure

CAS Registry Number
870774-21-3 CAFLUS

Chemical or Trade Name
Pyrene, 1-(2-naphthalenyl)-6-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



_L8 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:1300762 CAPLUS [Full-text](#)
Document Number
147:541990

Title
Preparation of arylsilanes and organic electroluminescent device utilizing the same

Author/Inventor
Ito, Mitsunori
Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 54pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007129702	A1	20071115	WO 2007-JP59499	20070508
KR 2009018901	A	20090224	KR 2008-727359	20081107
US 20090236975	A1	20090924	US 2009-299967	20090213

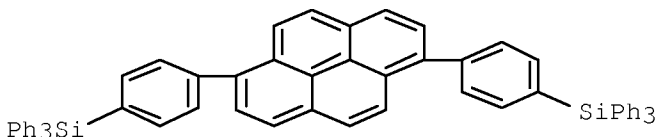
Abstract

There is disclosed a novel silicon compound of a specific structure having a substituted silyl group [I; FA1 = (un)substituted C6-50 condensed ring group; L1, L2, Ar1-Ar6 = each (un)substituted C6-50 aromatic hydrocarbyl, C3-50 aromatic heterocyclyl, C8-50 condensed aromatic group, C1-10 alkyl; a, b, d, e = an integer of 0-6, provided that a + e ≥ 1; c = an integer of 1-6; when FA1 = anthylene and a = e = 1, L1 = L2 = phenylene]. There is also disclosed an organic electroluminescent device wherein an organic thin film composed of one or more layers including at least a light-emitting layer is interposed between a cathode and an anode. In this organic electroluminescent device, at least one layer of the organic thin film contains the silicon compound I by itself or as a component of a mixture. The organic electroluminescent device enables to obtain light emission having high luminous efficiency, high color purity, and long life. Thus, 1,4-diiodobenzene was treated with 1.4 M BuLi/hexane in toluene/Et₂O (1/1) at -78 to -20° for 10 min and at -20° for 1 h, treated dropwise with a solution of triphenylsilyl chloride in toluene at -78° over 20 min, and stirred for 1 h and at room temperature for overnight to give 65.4% (4-iodophenyl)triphenylsilane (II). II and [3-{9-(1-naphthyl)anthracen-5-yl}phenyl]boronic acid were heated in the presence of tetrakis(triphenylphosphine)palladium in a mixture of 2 M aqueous Na₂CO₃ solution, 1,2-dimethoxyethane, and toluene under refluxing at 90° for 8 h to give 84.6% [3'-{9-(1-naphthyl)anthracen-5-yl}-1,1'-biphenyl-4-yl]triphenylsilane (III). An organic electroluminescent device with a luminescent layer of III showed luminescent efficiency of 11.6 cd/A and service life of 9250 h at 1000 cd/m².

Hit Structure

CAS Registry Number
956776-75-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis[4-(triphenylsilyl)phenyl]- (CA INDEX NAME)



_L8 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:993620 CAPLUS [Full-text](#)
Document Number
147:332701

Title
Organic electroluminescent device of multi-photon emission mode having uniform luminance in a large-area format by use of a charge generation layer

Author/Inventor
Itai, Yuichiro
Patent Assignee/Corporate Source
Fujifilm Corporation, Japan

Source
U.S. Pat. Appl. Publ., 21 pp. CODEN: USXXCO

Document Type
Patent

Language
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070205411	A1	20070906	US 2007-713027	20070302
JP 2007242733	A	20070920	JP 2006-60246	20060306

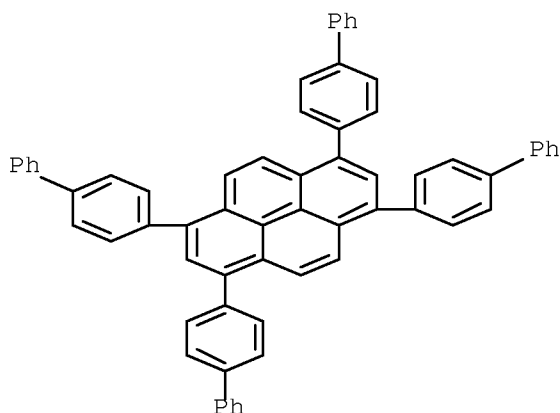
Abstract

Organic electroluminescent devices of multi-photon emission mode are described which comprise plural light emission layers and at least one charge generation layer between a pair of electrodes, arranged in a film thickness direction, where the charge generation layer includes at least one p-doped layer and at least one n-doped layer, and further includes an alkali metal layer and a layer containing a hole transport material between the p-doped layer and the n-doped layer. An organic electroluminescent device of multi-photon emission mode exhibiting little unevenness in luminance even in a large-area format **electroluminescence** device is provided.

Hit Structure

CAS Registry Number
790273-07-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



, L8 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:33414 CAPLUS [Full Text](#)
Document Number
146:121699

Title
Process for preparation of pyrene derivatives for use in organic **electroluminescence** devices

Author/Inventor
Ito, Mitsunori; Kubota, Mineyuki
Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 62pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007004364	A1	20070111	WO 2006-JP310194	20060523
JP 2007015961	A	20070125	JP 2005-197765	20050706
EP 1905754	A1	20080402	EP 2006-746728	20060523
US 20080124571	A1	20080529	US 2007-926813	20071029
US 7585574	B2	20090908		
CN 101213161	A	20080702	CN 2006-80024361	20080103
KR 2008027332	A	20080326	KR 2008-700282	20080104
IN 2008CN00622	A	20081128	IN 2008-CN622	20080206

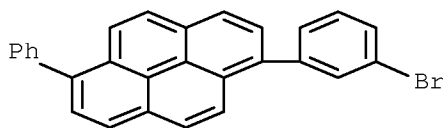
Abstract

This invention pertains to a method for producing pyrene derivs. via coupling reaction, for the use in organic **electroluminescence** devices comprising a neg. electrode and a pos. electrode and, interposed there between, one or two or more organic thin film layers including at least a light emitting layer, wherein at least one of the organic thin film layers contains the pyrene derivative alone or as a component of mixture. For example, the compound I was prepared in a three-step synthesis starting from pyrene-1-boronic acid and 3-bromo-1-iodobenzene in good yield. Thus, there is provided an organic **electroluminescence** device of high luminous efficiency capable of prolonged blue light emission.

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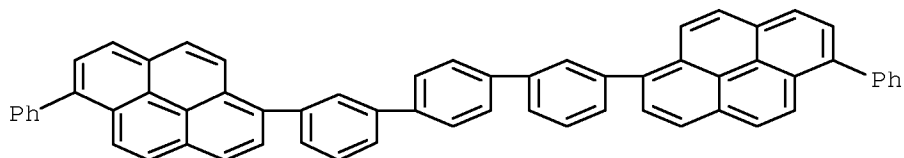
CAS Registry Number
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Chemical or Trade Name
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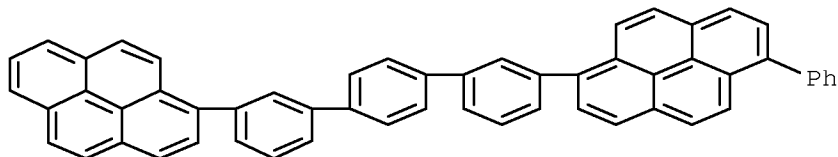
CAS Registry Number
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Chemical or Trade Name
Pyrene, 1,1'-[1,1':4',1''-terphenyl]-3,3''-diylbis[6-phenyl- (CA INDEX NAME)



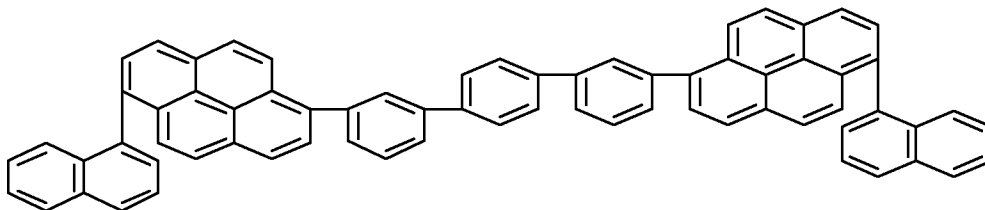
CAS Registry Number
918654-68-9 CAPLUS

Chemical or Trade Name
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CAS Registry Number
918654-69-0 CAPLUS

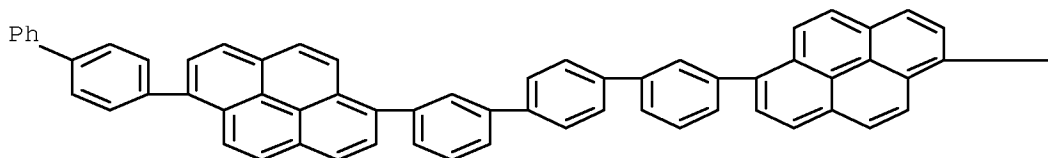
Chemical or Trade Name
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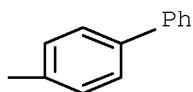
CAS Registry Number
918654-70-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1':4',1''-terphenyl]-3,3''-diylbis[6-(1-biphenyl)-4-yl]- (CA INDEX NAME)

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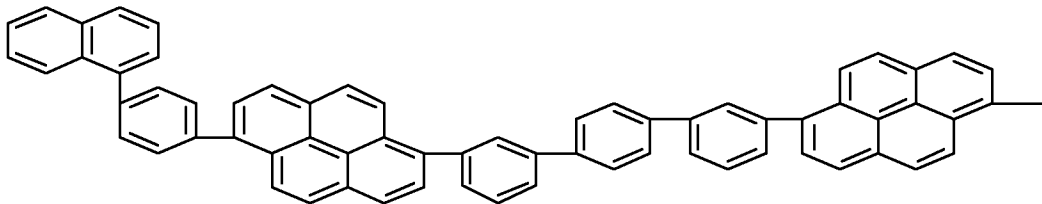
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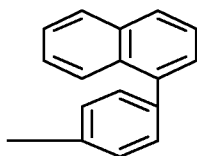
CAS Registry Number
918654-71-4 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1':4',1''-terphenyl]-3,3''-diylbis[6-(4-(1-naphthalenyl)phenyl)- (CA INDEX NAME)

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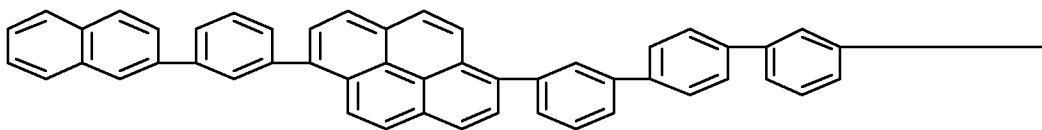
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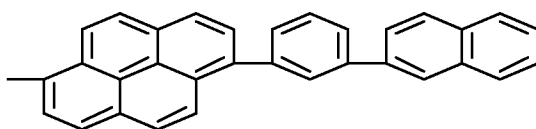
CAS Registry Number
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Chemical or Trade Name
Pyrene, 1,1'-[1,1':4',1''-terphenyl]-3,3''-diylbis[6-(3-(2-naphthalenyl)phenyl)]- (CA INDEX NAME)

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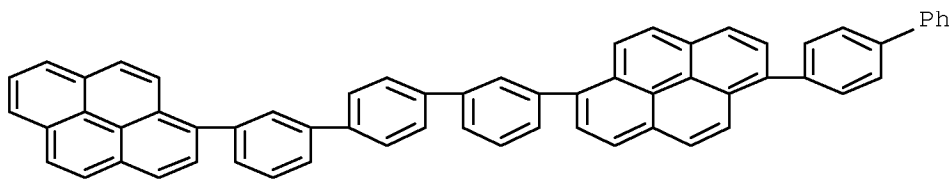


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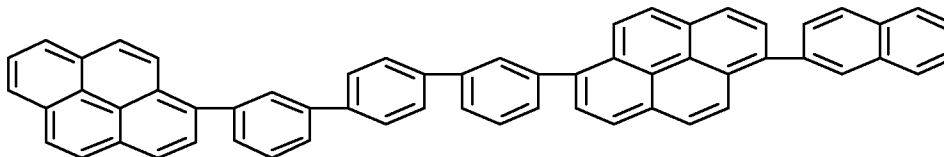
CAS Registry Number
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Chemical or Trade Name
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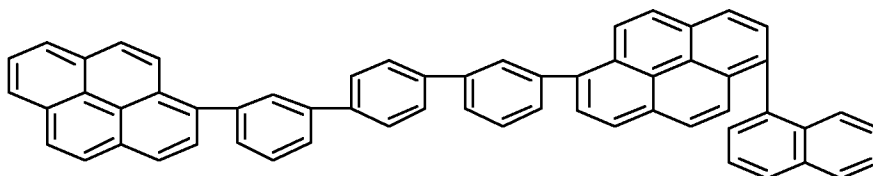
CAS Registry Number
918654-74-7 CAPLUS

Chemical or Trade Name
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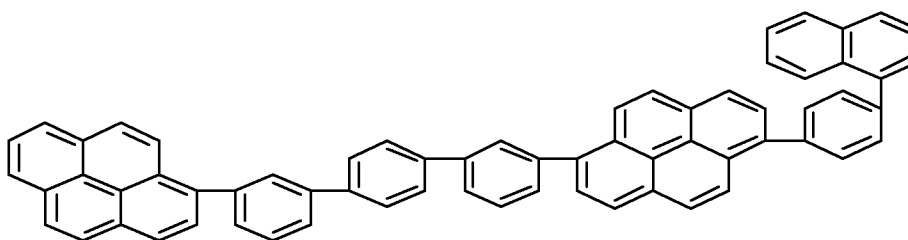
CAS Registry Number
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 (CA INDEX NAME)



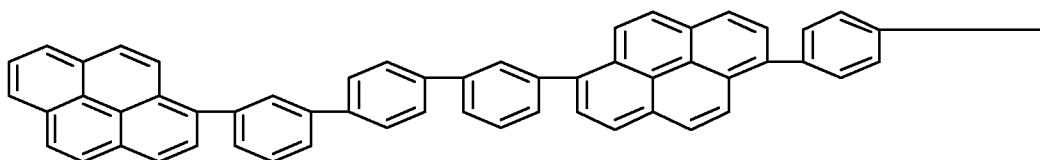
CAS Registry Number
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Chemical or Trade Name
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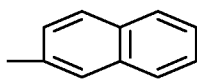


CAS Registry Number
 918654-77-0 CAPLUS

Chemical or Trade Name
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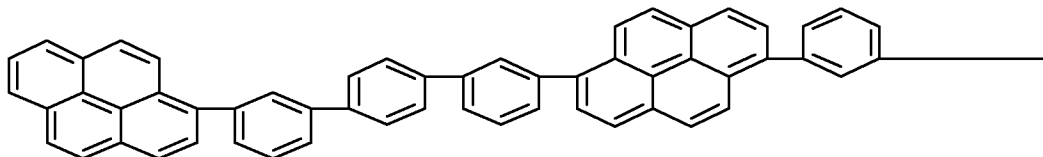
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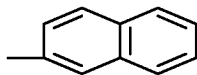
CAS Registry Number
918654-78-1 CAPLUS

Chemical or Trade Name
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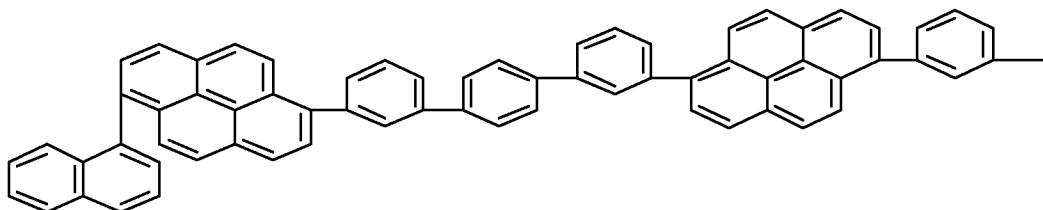
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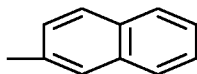
CAS Registry Number
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Chemical or Trade Name
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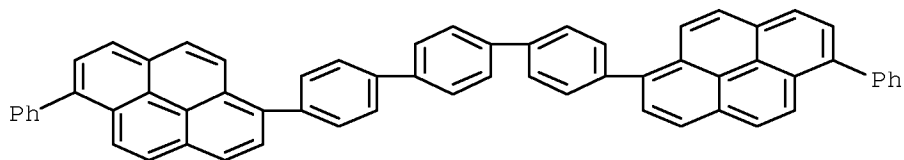


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CAS Registry Number
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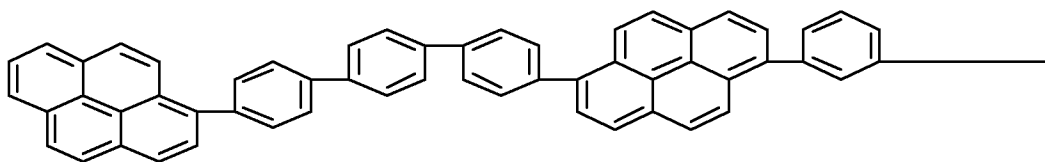
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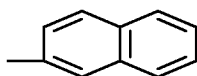
CAS Registry Number
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Chemical or Trade Name
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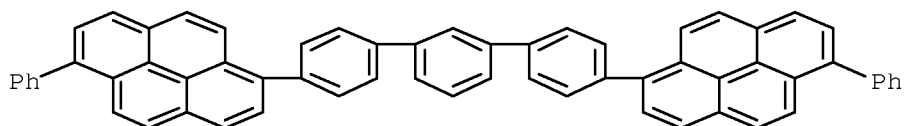


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CAS Registry Number
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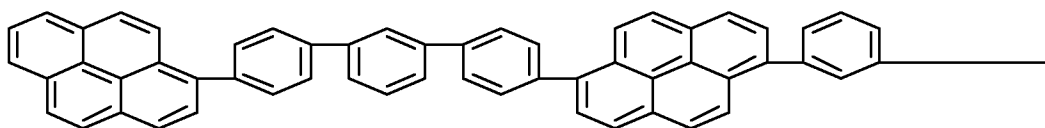
Chemical or Trade Name
Pyrene, 1,1'-[1,1':3',1''-terphenyl]-4,4''-diylbis[6-phenyl- (CA INDEX NAME)



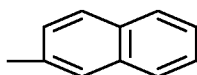
CAS Registry Number
918654-84-9 CAPLUS

Chemical or Trade Name
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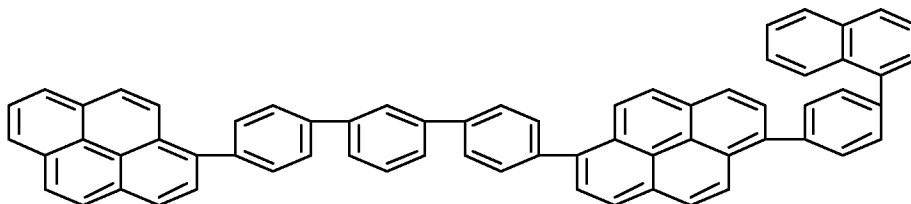
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CAS Registry Number

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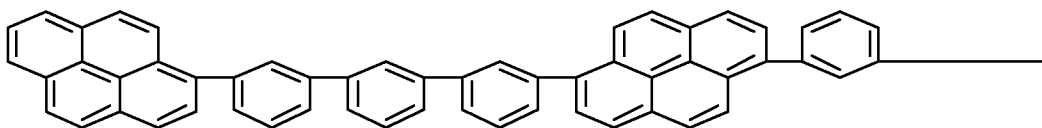
Chemical or Trade Name
Pyrene, 1-[4-(1-naphthalenyl)phenyl]-6-[4''-(1-pyrenyl)[1,1':3',1''-terphenyl]-4-yl]- (CA INDEX NAME)



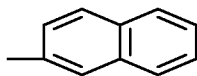
CAS Registry Number
918654-87-2 CAPLUS

Chemical or Trade Name
Pyrene, 1-[3-(2-naphthalenyl)phenyl]-6-[3''-(1-pyrenyl)[1,1':3',1''-terphenyl]-3-yl]- (CA INDEX NAME)

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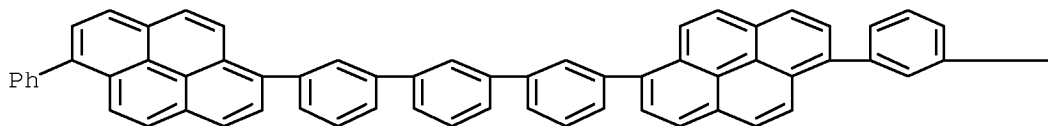
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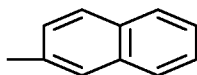
CAS Registry Number
918654-88-3 CAPLUS

Chemical or Trade Name
Pyrene, 1-[3-(2-naphthalenyl)phenyl]-6-[3''-(6-phenyl-1-pyrenyl)[1,1':3',1''-terphenyl]-3-yl]- (CA INDEX NAME)

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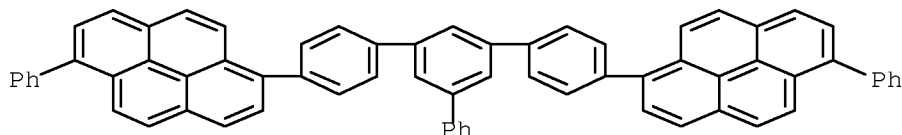


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CAS Registry Number
918654-92-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-(5'-phenyl[1,1':3',1''-terphenyl]-4,4''-diyl)bis[6-phenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

L8 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2006.510508 CAPLUS [Full-text](#)

Document Number 145:17891

Title Pyrene compound and, utilizing the same, light emitting transistor device and **electroluminescence** device

Author/Inventor Oyamada, Takahito; Uchiuzou, Hiroyuki; Adachi, Chihaya; Akiyama, Seiji; Takahashi, Takayoshi

Patent Assignee/Corporate Source

Kyoto University, Japan; Nippon Telegraph and Telephone Corporation; Pioneer Corporation; Hitachi, Ltd.; Mitsubishi Chemical Corporation; Rohm Co., Ltd.

Source PCT Int. Appl., 66 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006057325	A1	20060601	WO 2005-JP21647	20051125
JP 2006176494	A	20060706	JP 2005-282590	20050928
EP 1818322	A1	20070815	EP 2005-809745	20051125
CN 101072743	A	20071114	CN 2005-80040399	20051125
KR 2007093401	A	20070918	KR 2007-714336	20070622
US 20080012475	A1	20080117	US 2007-791613	20070806

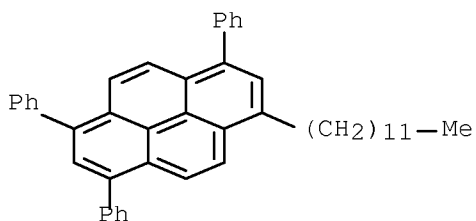
Abstract

An organic phosphor of the following formula I (R1 = heteroaryl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R2 = heteroalkyl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R1 ≠ R2) that can be used in both a light emitting transistor device and an organic EL device. There is provided a light emitting transistor device or an organic EL device, wherein luminescence of such a specified asym. pyrene compound is utilized in a light emitting layer of transistor device or a luminescent layer, hole transporting layer or electron transporting layer of organic **electroluminescence** device.

Hit Structure

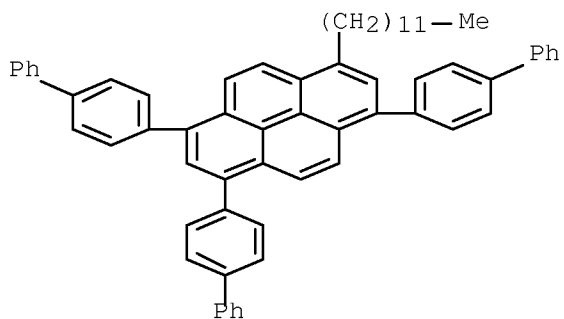
CAS Registry Number 887917-92-2 CAPLUS

Chemical or Trade Name Pyrene, 1-dodecyl-3,6,8-triphenyl- (CA INDEX NAME)



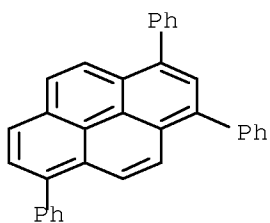
CAS Registry Number 887917-94-4 CAPLUS

Chemical or Trade Name Pyrene, 1,3,6-tris([1,1'-biphenyl]-4-yl)-8-dodecyl- (CA INDEX NAME)



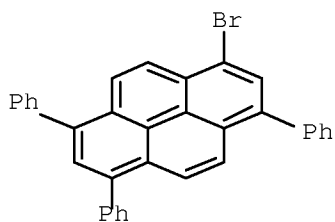
CAS Registry Number
887918-05-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-triphenyl- (CA INDEX NAME)



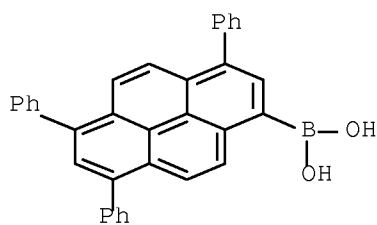
CAS Registry Number
887918-07-2 CAPLUS

Chemical or Trade Name
Pyrene, 1-bromo-3,6,8-triphenyl- (CA INDEX NAME)



CAS Registry Number
887918-18-5 CAPLUS

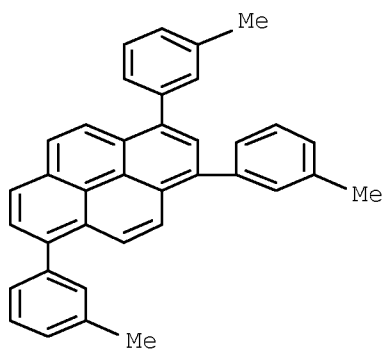
Chemical or Trade Name
Boronic acid, B-(3,6,8-triphenyl-1-pyrenyl)- (CA INDEX NAME)



CAS Registry Number
887918-26-5 CAPLUS

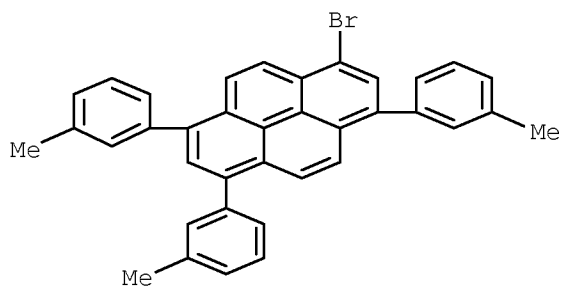
Chemical or Trade Name

Pyrene, 1,3,6-tris(3-methylphenyl)- (CA INDEX NAME)



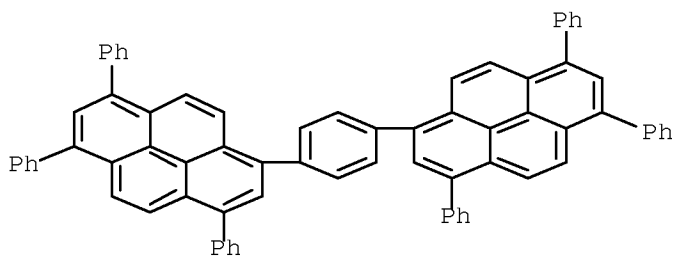
CAS Registry Number
887918-30-1 CAPLUS

Chemical or Trade Name
Pyrene, 1-bromo-3,6,8-tris(3-methylphenyl)- (CA INDEX NAME)



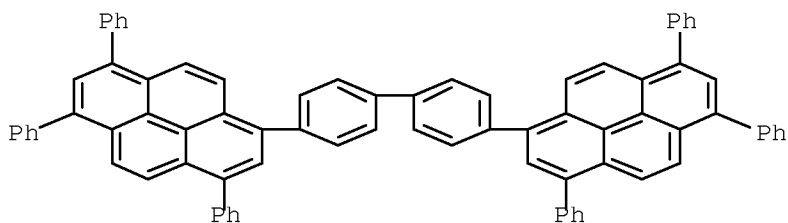
CAS Registry Number
887918-09-4 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-triphenyl-8-[4-(3,6,8-triphenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



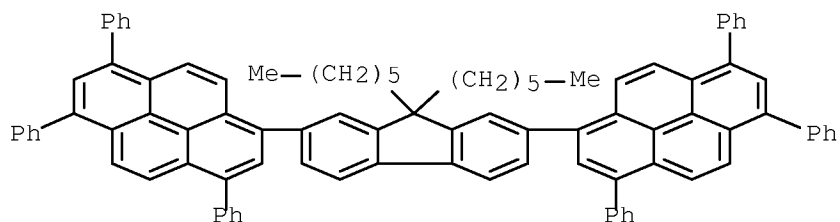
CAS Registry Number
887918-12-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1'-biphenyl]-4,4'-diylbis[3,6,8-triphenyl- (9CI) (CA INDEX NAME)



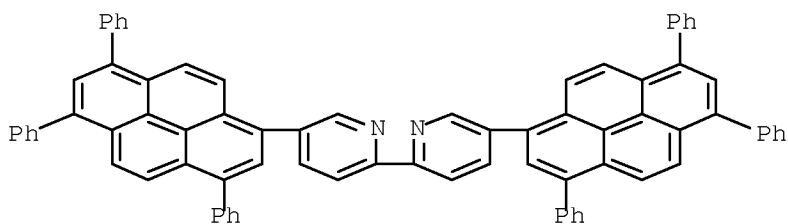
CAS Registry Number
887918-16-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[3,6,8-triphenyl- (CA INDEX NAME)



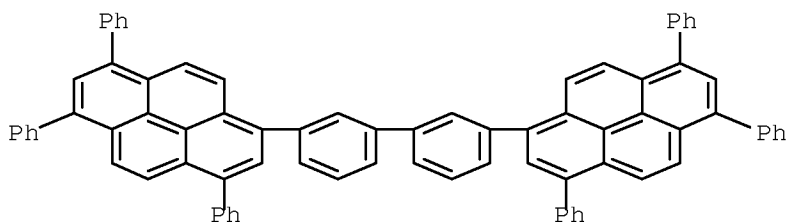
CAS Registry Number
887918-21-0 CAPLUS

Chemical or Trade Name
2,2'-Bipyridine, 5,5'-bis(3,6,8-triphenyl-1-pyrenyl)- (CA INDEX NAME)



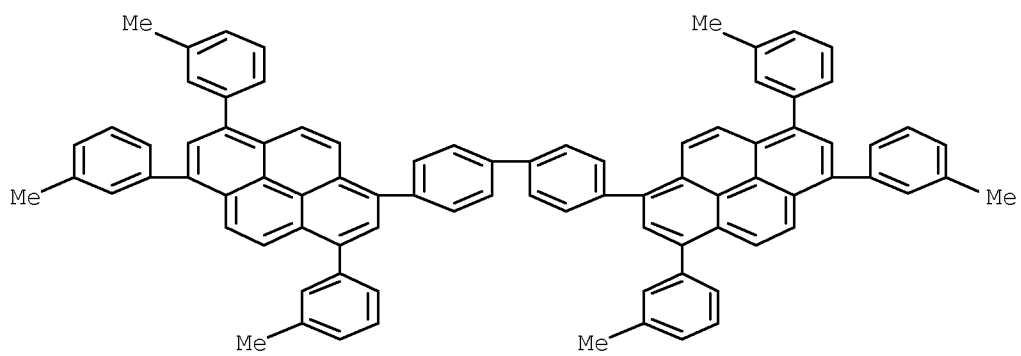
CAS Registry Number
887918-23-2 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1'-biphenyl]-3,3'-diylbis[3,6,8-triphenyl- (9CI) (CA INDEX NAME)



CAS Registry Number
887918-32-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1'-biphenyl]-4,4'-diylbis[3,6,8-tris(3-methylphenyl)- (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

.L8 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:263603 CAPLUS [Full-text](#)

Document Number

144:441798

Title

Unusual photoluminescence characteristics of tetraphenylpyrene (TPPy) in various aggregated morphologies

Author/Inventor

Oyamada, Takahito; Akiyama, Seiji; Yahiro, Masayuki; Saigou, Mari; Shiro, Motoo; Sasabe, Hiroyuki; Adachi, Chihaya

Patent Assignee/Corporate Source

Department of Photonics Materials Science, Chitose Institute of Science and Technology (CIST), Chitose, Hokkaido, 066-8655, Japan

Source

Chemical Physics Letters (2006), 421(1-3), 295-299 CODEN: CHPLBC; ISSN: 0009-2614

Document Type

Journal

Language

English

Abstract

1,3,6,8-Tetraphenylpyrene (TPPy) demonstrates unusual photoluminescence (PL) characteristics in the solid-state morphologies. The authors studied the PL characteristics of TPPy in various morphologies including powder, deposited film, and solns. The TPPy powder (A), which was prepared through column chromatog., recrystn., and train sublimation, showed blue fluorescence with a peak of maximum wavelength of $\lambda_{\text{max}} = 451$ nm. The TPPy powder (B), which was obtained by thermal annealing of TPPy powder (A) in a quartz tube in N₂, showed green fluorescence with $\lambda_{\text{max}} = 510$ nm. Also, the TPPy powder (B) was reversibly converted into TPPy powder (A) by recrystn. TPPy dimers form locally in the TPPy monomer aggregates during thermal annealing and redissociate into the monomer states during recrystn.

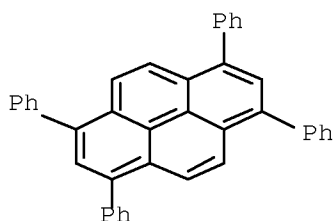
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD
(7 CITINGS)

.L8 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:262298 CAPLUS [Full-text](#)

Document Number

144:422134

Title

Estimation of carrier recombination and electroluminescence emission regions in organic light-emitting field-effect transistors using local doping method

Author/Inventor

Oyamada, Takahito; Sasabe, Hiroyuki; Oku, Yoshiaki; Shimoji, Noriyuki; Adachi, Chihaya

Patent Assignee/Corporate Source

Department of Photonics Materials Science, Chitose Institute of Science and Technology, 758-65 Bibi, Chitose, Hokkaido, 066-8655, Japan

Source

Applied Physics Letters (2006), 88(9), 093514/1-093514/3 CODEN: APPLAB; ISSN: 0003-6951

Document Type

Journal

Language

English

Abstract

To elucidate the electroluminescence (EL) mechanism of organic light-emitting field-effect transistors (OLEFETs), the authors determined the carrier recombination and EL emission regions using the local doping method. The local doping method is a useful technique for estimating the width of these regions in OLEFETs. The authors inserted an ultrathin rubrene doped 1,3,6,8-tetraphenylpyrene (TPPy) layer ($d = 10$ nm) as a sensing layer in a TPPy layer (80 nm) and measured the luminance-drain current-drain voltage characteristics and the EL spectra depending on the position of the sensing layer. The EL emission region expanded almost to the height (h_{semeq} , 40 nm) of the source-drain electrodes and was independent of the gate bias voltage (V_g). Further, the EL external quantum efficiency (η_{ext}) significantly decreased as V_g increased, suggesting that excitons generated in a TPPy host layer by carrier recombination are quenched by the application of V_g .

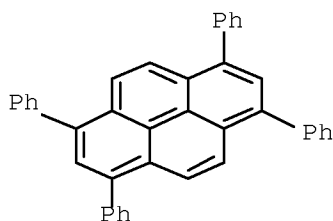
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



.L8 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:1144923 CAPLUS [Full-text](#)

Document Number

144:29415

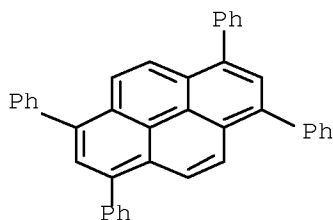
Title Lateral organic light-emitting diode with field-effect transistor characteristics
Author/Inventor Oyamada, Takahito; Uchiuzou, Hiroyuki; Akiyama, Seiji; Oku, Yoshiaki; Shimoji, Noriyuki; Matsushige, Kazumi; Sasabe, Hiroyuki; Adachi, Chihaya
Patent Assignee/Corporate Source Department of Photonics Materials Science, Chitose Institute of Science and Technology (CIST), 758-65 Bibi, Chitose, Hokkaido, 066-8655, Japan
Source Journal of Applied Physics (2005), 98(7), 074506/1-074506/7 CODEN: JAPIAU; ISSN: 0021-8979
Document Type Journal
Language English

Abstract Bright **electroluminescence** (EL) was observed from 1%-rubrene doped tetraphenylpyrene (TPPy) as an active layer in a lateral organic LED structure that allowed FET operation. This device configuration provides an organic LED structure where the anode (source) and cathode (drain) electrodes are laterally arranged, providing one a chance to control the EL intensity by changing the gate bias. TPPy provides compatible transistor and EL characteristics. Rubrene doping into the TPPy host and adjusting the source-drain channel length significantly improved the EL characteristics. A maximum EL quantum efficiency (η_{ext}) of .apprx.0.5% was observed with a Cr/Au source (S)-drain (D) electrode and a slightly higher η_{ext} of .apprx.0.8% with S-D electrodes of MgAu/Au, Al/Au, Cr/YAu/Au, and MgAl/Au multilayers, aiming for simultaneous hole and electron injection.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



.L8 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2005:962579 CAPLUS [Full-text](#)

Document Number
143:256816

Title White organic **electroluminescence** device
Author/Inventor Tokairin, Hiroshi; Fukuoka, Kenichi; Kubota, Mineyuki; Funahashi, Masakazu
Patent Assignee/Corporate Source Idemitsu Kosan Co., Ltd., Japan
Source PCT Int. Appl., 63 pp. CODEN: PIXXD2
Document Type Patent
Language Japanese
Patent Information

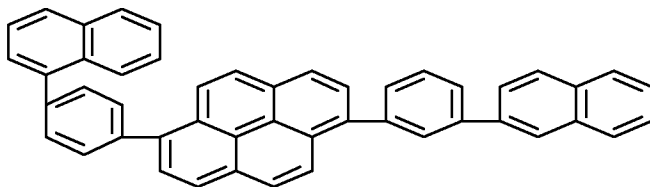
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005081587	A1	20050901	WO 2005-JP2442	20050217
EP 1718124	A1	20061102	EP 2005-719244	20050217
CN 1879454	A	20061213	CN 2005-80001270	20050217
US 20070063638	A1	20070322	US 2006-573661	20060328
KR 2006115372	A	20061108	KR 2006-708168	20060427

Abstract The invention refers to a white organic **electroluminescence** device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more organic thin film layers including at least a light emitting layer, wherein the light emitting layer is constituted of a laminate of blue color light emitting layer and yellow-to-red color light emitting layer and contains an asym. condensed-ring-containing compound. This white color organic **electroluminescence** device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strikingly prolonged service life.

Hit Structure

CAS Registry Number
863292-28-8 CAPLUS

Chemical or Trade Name
Pyrene, 1-[3-(2-naphthalenyl)phenyl]-6-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

Accession Number

2005:656260 CAPLUS [Full-text](#)

Document Number

143:275223

Title

Tetra-substituted pyrenes: new class of blue emitter for organic light-emitting diodes

Author/Inventor

Sotoyama, Wataru; Sato, Hiroyuki; Kinoshita, Masaru; Takahashi, Toshiro; Matsuura, Azuma; Kodama, Jun; Sawatari, Norio; Inoue, Hiroshi

Patent Assignee/Corporate Source

Functional Organic Materials Laboratory, Fujitsu Laboratories Limited, Morinosato-Wakamiya, Atsugi, 243-0197, Japan

Source

Digest of Technical Papers - Society for Information Display International Symposium (2003), 34, 1294-1297 CODEN: DTPSDS

Document Type

Journal; (computer optical disk)

Language

English

Abstract

We have developed a new class of highly-fluorescent blue emitter for organic light-emitting diodes (OLEDs) consisting of tetra-substituted pyrenes. From the anal. of the excited state diagrams of pyrene and its derivs. by MO calcs., we found that the new tetra-substituted pyrenes are highly fluorescent. OLEDs fabricated using the synthesized tetra-substituted pyrenes as emitters showed high efficiency and good color purity.

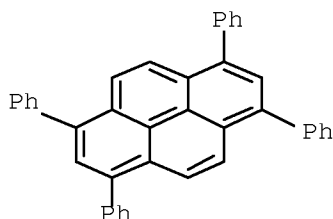
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CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)

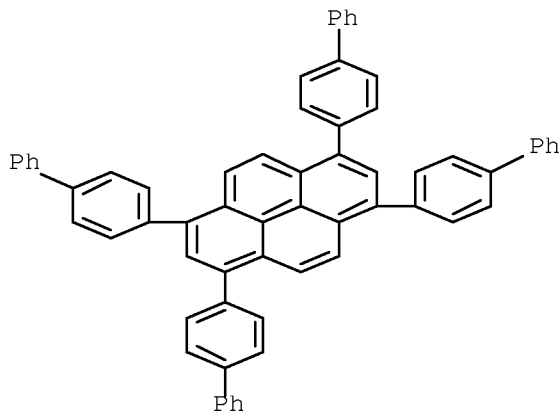


CAS Registry Number

790273-07-3 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)

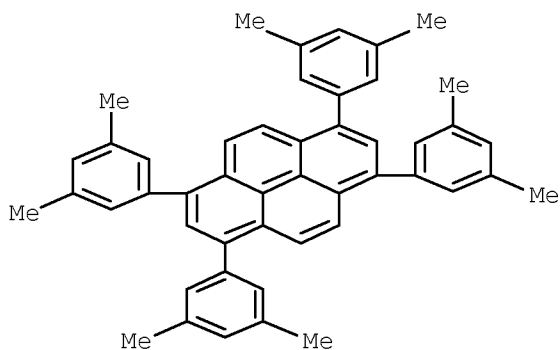


CAS Registry Number

863639-30-9 CAPLUS

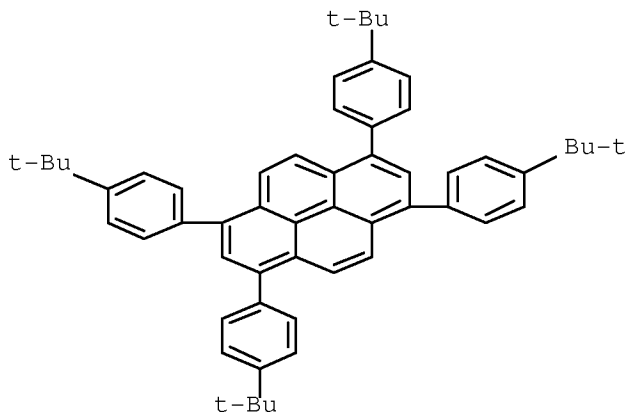
Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis(3,5-dimethylphenyl)- (CA INDEX NAME)



CAS Registry Number
863639-31-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

L8 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:336613 CAPLUS [Full-text](#)

Document Number

144:13629

Title

High-performance blue OLEDs based on a sterically hindered pyrene host material

Author/Inventor

Yeh, Chia-Chun; Lee, Meng-Ting; Chen, Hsian-Hung; Chen, Chin H.

Patent Assignee/Corporate Source

Department of Applied Chemistry, National Chiao Tung University, Hsinshu, Taiwan, 300, Taiwan

Source

Digest of Technical Papers - Society for Information Display International Symposium (2004), 35, 788-791 CODEN: DTPSDS

Document Type

Journal; (computer optical disk)

Language

English

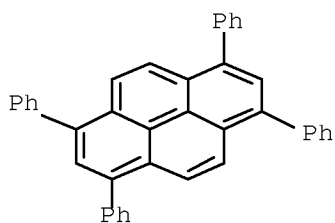
Abstract

The authors developed a blue organic light-emitting device (OLED) emitter based on a sterically hindered fluorescent host material of tetra(o-tolyl)pyrene (TOTP) which effectively suppresses the excimer emission of its **electroluminescence**. Doped with DSA-Ph of matching LUMO/HOMO, TOTP was used to produce a blue device with luminance efficiency of 8.64 cd/A at 20 mA/cm² and 7.1 V with a CIE_{x,y} color coordinate of [0.15, 0.28]. The properties of selected 1,3,6,8-tetra(aryl)pyrenes were measured and compared with conventional anthracene-based materials.

Hit Structure

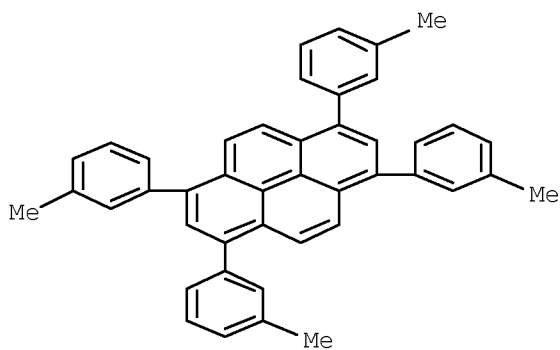
CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



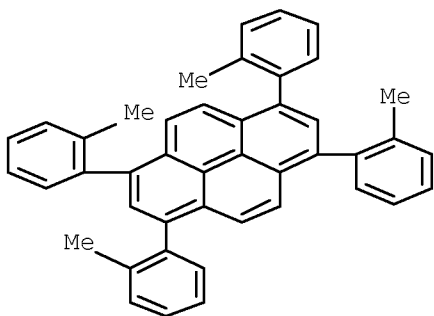
CAS Registry Number
870133-71-4 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(3-methylphenyl)- (CA INDEX NAME)



CAS Registry Number
870133-72-5 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(2-methylphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

.L8 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2001:299286 CAPLUS [Full-text](#)

Document Number
134:302822

Title
Organic electroluminescence devices

Author/Inventor
Toyama, Wataru; Hayano, Tomoaki; Sato, Hiroyuki; Matsuura, Akira

Patent Assignee/Corporate Source
Fujitsu Ltd., Japan

Source
Jpn. Kokai Tokkyo Koho, 6 pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001118682	A	20010427	JP 1999-299876	19991021
JP 3905265	B2	20070418		

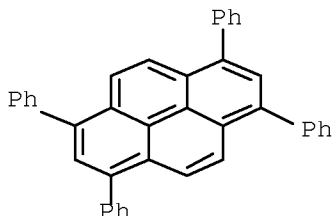
Abstract

A blue-emitting device comprises a phosphor layer containing an alkyl derivative, a cycloalkyl derivative or an aryl derivative of 1,3,6,8-tetraphenylperene.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

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12370 LIGHTS
1321284 LIGHT
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L9 68 L7 AND LIGHT

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YOU HAVE REQUESTED DATA FROM 68 ANSWERS - CONTINUE? Y/(N):y

L9 ANSWER 1 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2009:1086627 CAPLUS [Full-text](#)

Title
Preparation of anthracene compounds containing cyclic amine moiety as organic electroluminescent materials

Author/Inventor

Je, Jong Tae; Kim, Seong Hun; Lee, Se Jin; Yoo, Go Un

Patent Assignee/Corporate Source

SFC Ltd., S. Korea

Source

Repub. Korean Kongkae TaeHo Kongbo, 33pp. CODEN: KRXXA7

Document Type

Patent

Language

Korean

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2009093897	A	20090902	KR 2009-17148	20090227

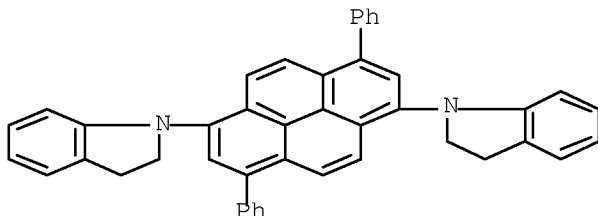
Abstract

Title compds. I [A = (un)substituted aryl or (un)substituted heteroaryl; n = 1-4; R1 = (un)substituted alkyl, (un)substituted alkenyl or (un)substituted alkynyl; R2 = (un)substituted aryl or (un)substituted heteroaryl; R3, R4 = (un)substituted alkyl, (un)substituted cycloalkyl, (un)substituted aryl, etc.] were prepared. For example, reaction of bromobenzene with n-butyllithium followed by in-situ treatment with 2,6-dibromoanthraquinone, exposure to K[NaH2PO2·H2O and Pd(OAc)2-catalyzed reaction with 1-indoline afforded compound II. An electroluminescent device (ITO glass coated with CuPC (200 Å), NPD (400 Å), 9,10-bis(2-naphthyl)anthracene (200 Å) + compound II (3%) (200 Å), Alq3 (350 Å), LiF (5 Å), and Al (1000 Å)) showed 2357 cd/m2 at 0.4 mA and CIE coordinate of (0.31,0.65).

Hit Structure

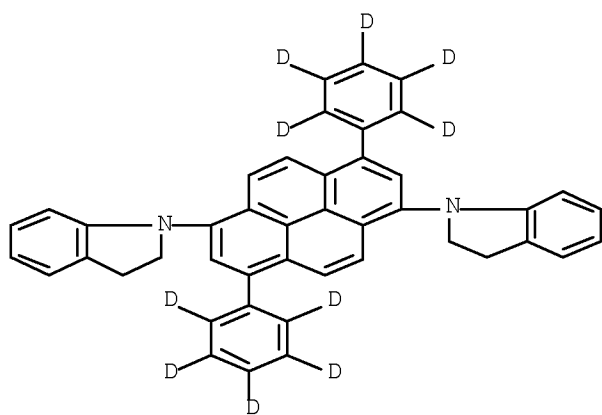
CAS Registry Number
1187763-43-4 CAPLUS

Chemical or Trade Name
INDEX NAME NOT YET ASSIGNED



CAS Registry Number
1187763-44-5 CAPLUS

Chemical or Trade Name
INDEX NAME NOT YET ASSIGNED



Accession Number
2009:920965 CAPLUS [Full-text](#)
Document Number
151:159940

Title
Organic electroluminescent device allowing adjustment of chromaticity
Author/Inventor
Kinoshita, Masaru
Patent Assignee/Corporate Source
Fuji Photo Film Co., Ltd., Japan

Source
U.S. Pat. Appl. Publ., 13pp. CODEN: USXXCO

Document Type
Patent

Language
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20080185971	A1	20080807	US 2006-579061	20061027
TW 267822	B	20061201	TW 2004-93112026	20040429
WO 2005106835	A1	20051110	WO 2004-JP6354	20040430
CN 1977301	A	20070606	CN 2004-80042922	20040430
KR 2007020051	A	20070216	KR 2006-724970	20061128
KR 836542	B1	20080610		

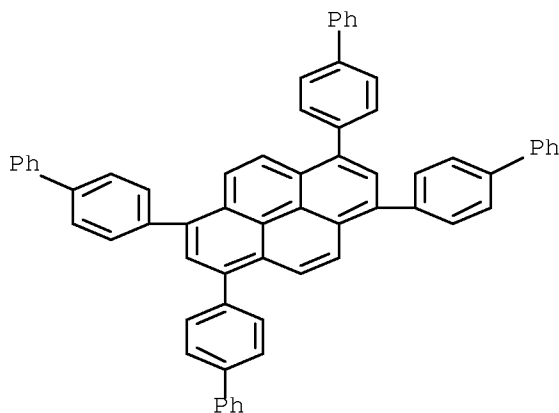
Abstract

Organic electroluminescent devices comprising an organic electroluminescent element comprising electrodes with an organic electroluminescent layer emitting white light at a chromaticity corresponding to a drive c.d. provided between the electrodes; and a drive unit driving the organic electroluminescence element by application of current or voltage and controlling the drive current and the period the current or voltage is applied per unit of time according to a chromaticity adjustment input, wherein in response to a first chromaticity adjustment input the drive unit controls, resp., the drive current or voltage to be a first current or voltage and the application period to be a first period, and in response to a second chromaticity adjustment input the drive unit controls, resp., the drive current or voltage to be a second current or voltage larger than the first current or voltage and the application period to be a second period shorter than the first period. Emission chromaticity can be adjusted while the brightness is kept constant. A liquid crystal display device employing an organic electroluminescent device as a backlight unit are also described.

Hit Structure

CAS Registry Number
790273-07-3 CAPLUS

Chemical or Trade Name
Eylene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

Accession Number
2009:716684 CAPLUS [Full-text](#)
Document Number
151:111404

Title
Organic light-emitting compound, and organic light-emitting device using this compound
Author/Inventor
Lee, Su Yong; Shin, Hyo Nim; Cho, Yeong Jun; Kwon, Hyeok Ju; Kim, Bong Ok; Kim, Seong Min; Yoon, Seung Su
Patent Assignee/Corporate Source
Gracel Co., Ltd., S. Korea

Source
Repub. Korea, 101pp. CODEN: KRXXFC

Document Type
Patent

Language
Korean

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 901887	B1	20090609	KR 2008-106223	20081029
EP 2100941	A2	20090916	EP 2008-173052	20081230
CN 101531565	A	20090916	CN 2008-10107500	20081231

US 20090230852	A1	20090917	US 2008-317986	20081231
KR 2009098757	A	20090917	KR 2009-23442	20090319

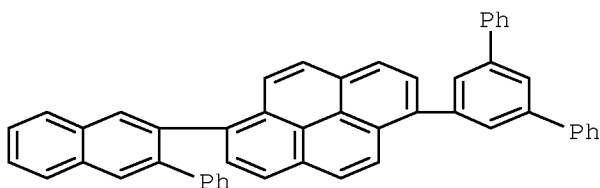
Abstract

The title compound is expressed by chemical formula I, wherein (1) L1 denotes (C6-C60)arylene or (C3-C60)heteroarylene comprising more than one selected from N, O, and S, (2) L2 and L3 independently denote chemical bond or (C1-C60)alkyleneoxy, (C1-C60)alkylenethio, (C6-C60)aryleneoxy, (C6-C60)arylenethio, (C6-C60)arylene, or (C3-C60)heteroarylene comprising more than one N, O, and S, (3) Ar1 denotes (C6-C60)aryl, (C3-C60)heteroaryl comprising more than one selected from N, O, and S, five-membered or six-membered heterocycloalkyl comprising more than one selected from N, O, and S, (C3-C60)cycloalkyl, adamantyl, and (C7-C60)bicycloalkyl, (4) R1-R11 independently denote H, deuterium, halogen, (C1-C60)alkyl, (C6-C60)aryl, (C3-C60)heteroaryl comprising more than one selected from N, O, and S, morpholino, thiomorpholino, five-membered or six-membered heterocycloalkyl comprising more than one selected from N, O, and S, tri(C1-C60)alkylsilyl, etc... More structures and details are described in the text. The compound has excellent light-emitting efficiency, pure color, and long service life for organic light-emitting devices.

Hit Structure

CAS Registry Number
1166381-43-6 CAPLUS

Chemical or Trade Name
Pyrene, 1-(3-phenyl-2-naphthalenyl)-6-[1,1':3',1''-terphenyl]-5'-yl- (CA INDEX NAME)



, L9 ANSWER 4 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2009:573003 CAPLUS [Full-text](#)

Document Number
150:539448

Title
Preparation of aromatic amine derivatives as doping materials for organic electroluminescent devices

Author/Inventor
Funabashi, Masakazu; Kubota, Mineyuki

Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
Jpn. Tokkyo Koho, 33pp. CODEN: JTXXFF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 4263700	B2	20090513	JP 2005-73474	20050315
JP 2006256979	A	20060928		
WO 2006098080	A1	20060921	WO 2006-JP300516	20060117
EP 1860096	A1	20071128	EP 2006-711796	20060117
US 20060210830	A1	20060921	US 2006-336855	20060123
KR 2007110362	A	20071116	KR 2007-720953	20070913
IN 2007CN04053	A	20071123	IN 2007-CN4053	20070917
CN 101142169	A	20080312	CN 2006-80008634	20070917

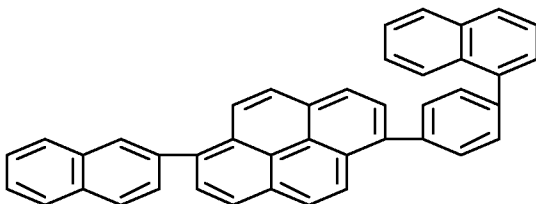
Abstract

The title compds. I [T1 = (A1)a; T2 = (A2)b; T3 = (A3)c; T4 = (A4)d; A1-A4 = H, Me, Et, etc.; a, b, c, d = 0-3; A5-A12 = Me, Et, Pr, etc.] are prepared Thus, the title compound II was prepared from the coupling reaction of 6,12-dibromochrysene with bis(3,4-dimethylphenyl)amine. An organic electroluminescent device containing II showed blue light and luminous efficiency 7.1 cd/A under voltage of 6.5 V.

Hit Structure

CAS Registry Number
870774-21-3 CAPLUS

Chemical or Trade Name
Pyrene, 1-(2-naphthalenyl)-6-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)

, L9 ANSWER 5 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2009:160932 CAPLUS [Full-text](#)

Document Number
150:435723

Title
Ambipolar tetraphenylpyrene (TPPy) single-crystal field-effect transistor with symmetric and asymmetric electrodes

Author/Inventor
Bisri, S. Z.; Takahashi, T.; Takenobu, T.; Yahiro, M.; Adachi, C.; Iwasa, Y.

Patent Assignee/Corporate Source
Institute for Material Research, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, 980-8577, Japan

Source
Advances in Materials Research (Berlin, Germany) (2008), 10(Frontiers in Materials Research), 103-110 CODEN: ADMRF3; ISSN: 1435-1889

Document Type
Journal

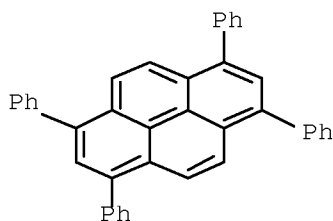
Language
English

Abstract
An ambipolar field-effect transistor (FET) based on a 1,3,6, 8-tetraphenylpyrene (TPPy) single-crystal, a high photoluminescent material, has been successfully fabricated using sym. and asym. electrodes. Several kinds of metal electrodes have been employed to investigate the charge injection characteristics in the single-crystal FET. Hole and electron mobilities of 0.34 and $7.7 \times 10^{-2} \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$ were achieved by using Au and Ca electrodes, resp. The ambipolar characteristic of this device gives a prospect for further development in light-emitting FET operation.

Hit Structure

CAS Registry Number
13638-82-9 CASLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



.L9 ANSWER 6 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2009:138929 CAPLUS [Full-text](#)

Document Number

150:202541

Title

Light-emitting device material and light-emitting device

Author/Inventor

Sugimoto, Kazunori; Tominaga, Tsuyoshi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

PCT Int. Appl., 45pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2009016964	A1	20090205	WO 2008-JP62786	20080716

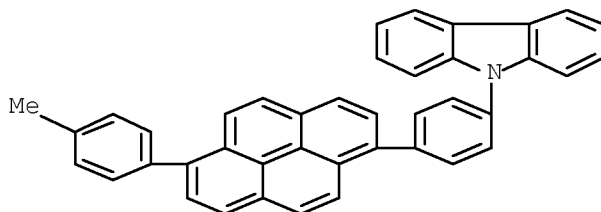
Abstract

The invention relates to a **light-emitting device material** characterized by containing a specific fluorene compound. This **light-emitting device material** enables to obtain a **light-emitting device** having high luminous efficiency, excellent color purity and excellent durability. Also disclosed is a **light-emitting device** using such a **light-emitting device material**.

Hit Structure

CAS Registry Number
929099-54-7 CAPLUS

Chemical or Trade Name
9H-Carbazole, 9-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



.L9 ANSWER 7 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2009:28462 CAPLUS [Full-text](#)

Document Number

150:109463

Title

Pyrene derivatives, blue organic fluorescent materials, visible ray light-emitting diodes having them, and light-emitting method of them

Author/Inventor

Akiyama, Seiji

Patent Assignee/Corporate Source

Mitsubishi Chemical Corp., Japan

Source

Jpn. Kokai Tokkyo Koho, 78pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2009004351	A	20090108	JP 2007-294516	20071113

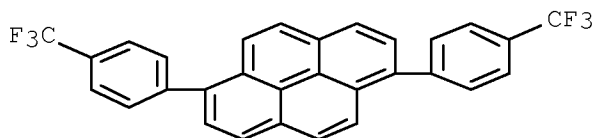
Abstract

Title fluorescent materials contain fluorescent substances I [R1 - R6 = H, (un)substituted aromatic hydrocarbyl, (un)substituted alkenyl, (un)substituted alkynyl, (un)substituted alkyl, (un)substituted silyl, (un)substituted heterocyclic group, (un)substituted arylamino group, ≥ 1 of R1 - R6 \neq H], II (Ar1 = aromatic hydrocarbon ring, Ar1 may have ≥ 3 substituent; m = 1-20; R7 - R11, R7' - R11' = same as R1, ≥ 1 of R7 - R11, ≥ 1 of R7' - R11' \neq H, R7 - R11, R7' - R11' may form ring together with adjacent substituent), or III (Ar2 = same as Ar1, Ar2 may have ≥ 3 substituent; n = 0-20; R12 - R16, R12' - R16' = same as R1, ≥ 1 of R12 - R16, ≥ 1 of R12' - R16' \neq H, R12 - R16, R12' - R16' may form ring together with adjacent substituent). The pyrene derivs. are IV or V [R17 - R21 = (un)substituted aromatic hydrocarbyl, (un)substituted alkenyl, (un)substituted alkynyl, (un)substituted alkyl, (un)substituted silyl, (un)substituted heterocyclic group, (un)substituted arylamino group, (un)substituted alkoxyl, (un)substituted arylboryl, sulfonyl, sulfonic acid, (un)substituted phosphine (oxide), R17 - R18 and R19 - R21 are different each other]. The **light-emitting diodes** have **light** emission maximum in the wavelength at 380-420 nm. In the **light-emitting method**, I to III emits high-purity blue **light** using the diodes.

Hit Structure

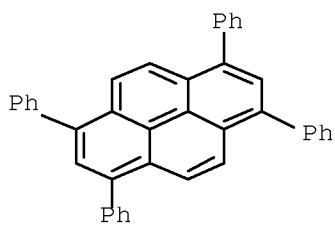
CAS Registry Number
950779-02-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



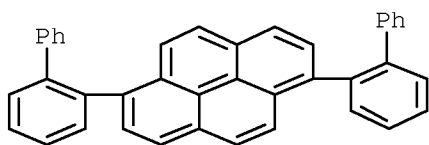
CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



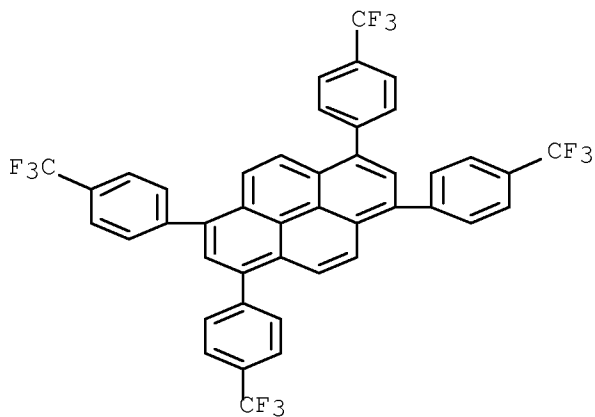
CAS Registry Number
869340-09-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis([1,1'-biphenyl]-2-yl)- (CA INDEX NAME)



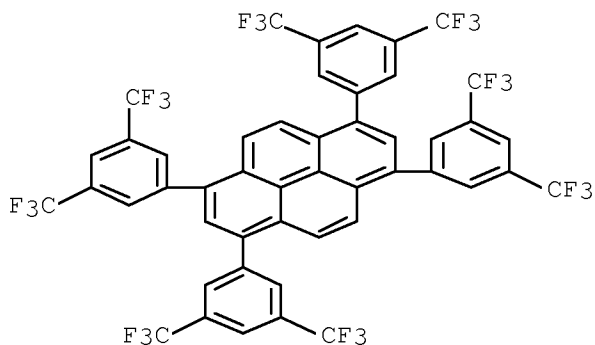
CAS Registry Number
881853-23-2 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



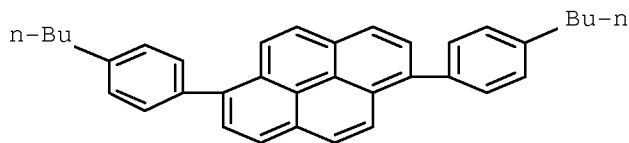
CAS Registry Number
887909-73-1 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[3,5-bis(trifluoromethyl)phenyl]- (CA INDEX NAME)



CAS Registry Number
950779-03-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(4-butylphenyl)- (CA INDEX NAME)



L9 ANSWER 8 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN
Accession Number
2008:1426153 CAPLUS [Full-text](#)
Document Number
149:566879

Title
Optical instruments with phosphorescent **light**-emitting layers and display units
Author/Inventor
Minamoto, Masaki; Sekiguchi, Toru; Kitta, Yoshihito; Akiyama, Seiji; Kasakura, Akio
Patent Assignee/Corporate Source
Citizen Electronics Co., Ltd., Japan; NEC Lighting Ltd.; Mitsubishi Chemical Corp.
Source
Jpn. Kokai Tokkyo Koho, 40pp. CODEN: JKXXAF
Document Type
Patent
Language
Japanese
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008287104	A	20081127	JP 2007-133356	20070518

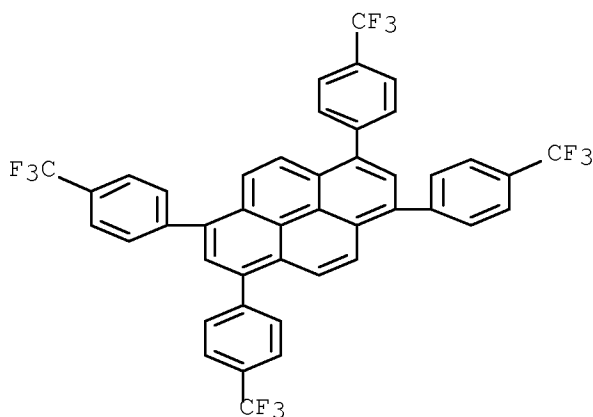
Abstract

The title instruments contain multiple nos. of stacked **light** conversion layers containing phosphorescent materials that entirely converts **light** with peak wavelength 360-420 nm. The phosphorescent materials include (A) 1st materials emitting **light** of peak wavelength 420-480 nm, (B) 2nd materials emitting **light** of peak wavelength >480 and ≤550 nm, or (C) 3rd materials emitting **light** of peak wavelength >550 and ≤700 nm. The instruments include the neighboring layers containing the phosphorescent materials in an overlapped condition, with the overlapped phosphorescent materials emitting **light** of different spectra. Also claimed are the instruments containing UV absorbers in the parts of the layers free of the phosphorescent materials. Display units including the instruments are also claimed.

Hit Structure

CAS Registry Number
881853-23-2 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



, L9 ANSWER 9 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:1106412 CAPLUS [Full-text](#)

Document Number

149:366551

Title

Light-emitting device containing pyrene derivative

Author/Inventor

Nagao, Kazumasa; Ogawa, Takafumi; Murase, Seichiro; Tominaga, Tsuyoshi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

PCT Int. Appl., 50pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008108260	A1	20080912	WO 2008-JP53481	20080228
JP 2008252063	A	20081016	JP 2007-305249	20071127

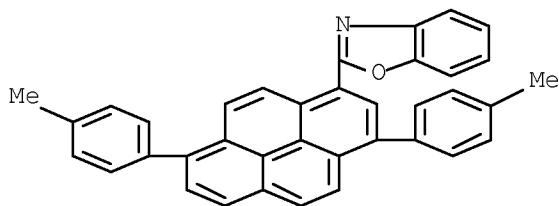
Abstract

Disclosed is a **light-emitting device** having high luminous efficiency and excellent durability. Specifically disclosed is a **light-emitting device** which comprises at least a **light-emitting layer** arranged between an anode and a cathode and emits **light** by an elec. energy. This **light-emitting device** is characterized in that the **light-emitting layer** contains a pyrene compound represented by the general formula I and an organic fluorescent substance having a fluorescence peak wavelength of not less than 500 nm but not more than 680 nm. In the formula, R1-R15 may be the same or different and each represents a member selected from the group consisting of a hydrogen, alkyl groups, cycloalkyl groups, heterocyclic groups, alkenyl groups, cycloalkenyl groups, alkynyl groups, alkoxy groups, alkylthio groups, aryl ether groups, aryl thioether groups, aryl groups, heteroaryl groups, an amino group, a silyl group, -P(=O)R16R17 groups and ring structures formed together with an adjacent substituent, and R16 and R17 are be selected from aryl groups and heteroaryl groups; n-number of R1-R10 is used for a linkage with a bicyclic benzoheterocyclic ring, and n is an integer of 1-4; X is selected from an oxygen atom, a sulfur atom and a -NR18- group, and R18 is selected from a hydrogen, alkyl groups, cycloalkyl groups, heterocyclic groups, aryl groups and heteroaryl groups; and R18 and R15 may combine together to form a ring.

Hit Structure

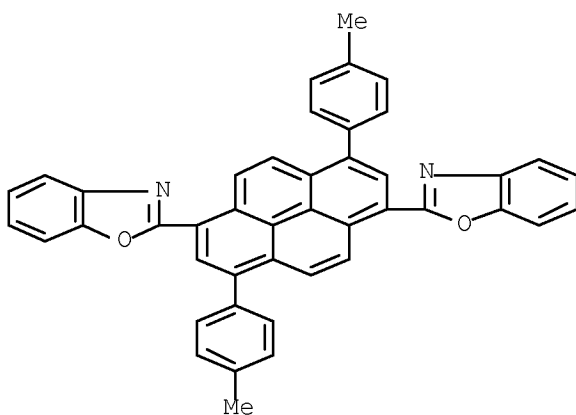
CAS Registry Number
906011-69-8 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



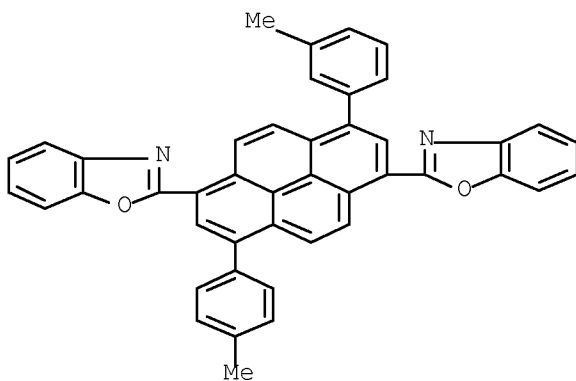
CAS Registry Number
1056886-56-6 CAPLUS

Chemical or Trade Name
Benzoxazole, 2,2'-[3,8-bis(4-methylphenyl)-1,6-pyrenediyl]bis- (CA INDEX NAME)



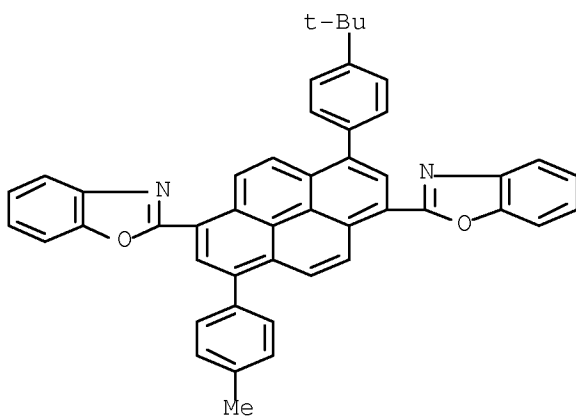
CAS Registry Number
1056886-57-7 CAPLUS

Chemical or Trade Name
Benzoxazole, 2,2'-[3-(3-methylphenyl)-8-(4-methylphenyl)-1,6-pyrenediyl]bis- (CA INDEX NAME)



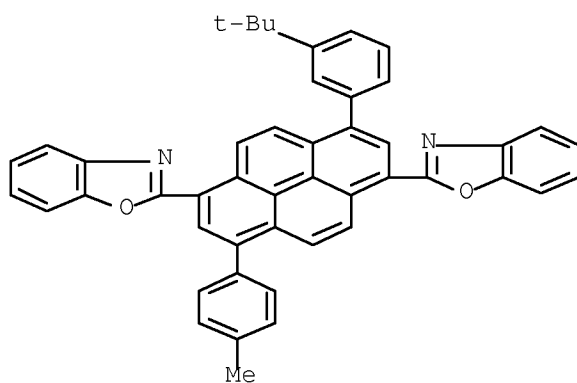
CAS Registry Number
1056886-58-8 CAPLUS

Chemical or Trade Name
Benzoxazole, 2,2'-[3-[4-(1,1-dimethylethyl)phenyl]-8-(4-methylphenyl)-1,6-pyrenediyl]bis- (CA INDEX NAME)



CAS Registry Number
1056886-59-9 CAPLUS

Chemical or Trade Name
Benzoxazole, 2,2'-[3-{3-(1,1-dimethylethyl)phenyl}-8-(4-methylphenyl)-1,6-
pyrenediyl]bis- (CA INDEX NAME)



Accession Number

2008:1106202 CAPLUS [Full-text](#)

Document Number

149:365924

Title

Light-emitting device material and light-emitting device

Author/Inventor

Nagao, Kazumasa; Tominaga, Tsuyoshi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

PCT Int. Appl., 56pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008108256	A1	20080912	WO 2008-JP53464	20080228

Abstract

Disclosed is a **light-emitting device material** containing a pyrene compound I below, which enables to obtain a **light-emitting device** having high efficiency and excellent durability. Also disclosed is a **light-emitting device** using such a **light-emitting device material**. (In the formula below, R1-R17 may be the same as or different from one another and represent one selected from the group consisting of a H, an alkyl group, a cycloalkyl group, a heterocyclic group, an alkoxy group, an alkylthio group, an arylether group, an aryl thioether group, an aryl group, a heteroaryl group, an amino group, a silyl group, -P(=O)R18R19 and a ring structure formed together with an adjacent substituent, with R18 and R19 being an aryl group or a heteroaryl group; n represents an integer of 1-2; and X represents a single bond, an arylene group or a heteroarylene group. In this connection, one of R10-R17 is used for the connection with X).

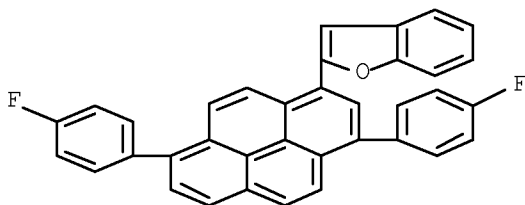
Hit Structure

CAS Registry Number

959900-14-2 CAPLUS

Chemical or Trade Name

Benzofuran, 2-[3,8-bis(4-fluorophenyl)-1-pyrenyl]- (CA INDEX NAME)

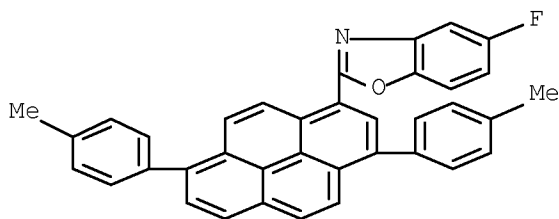


CAS Registry Number

1056113-68-8 CAPLUS

Chemical or Trade Name

Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-fluoro- (CA INDEX NAME)

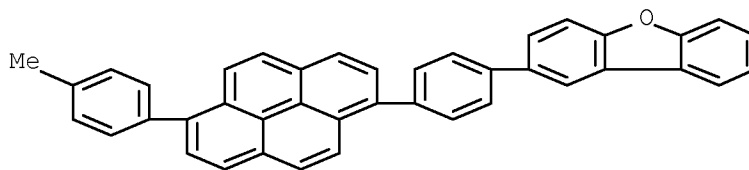


CAS Registry Number

1056113-66-6 CAPLUS

Chemical or Trade Name

Dibenzofuran, 2-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)

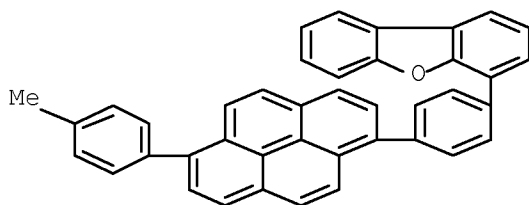


CAS Registry Number

1056113-49-5 CAPLUS

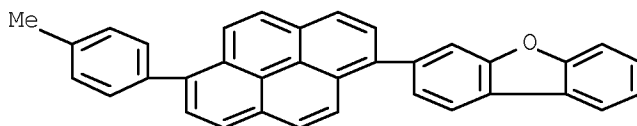
Chemical or Trade Name

Dibenzofuran, 4-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



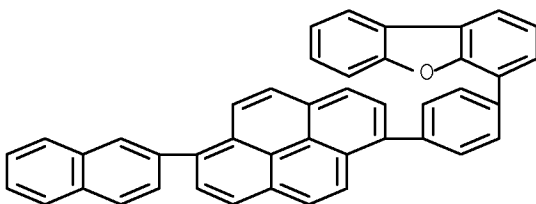
CAS Registry Number
1056113-51-9 CAFLUS

Chemical or Trade Name
Dibenzofuran, 3-[6-(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



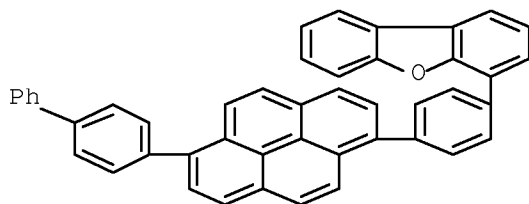
CAS Registry Number
1056113-52-0 CAFLUS

Chemical or Trade Name
Dibenzofuran, 4-[4-[6-(2-naphthalenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



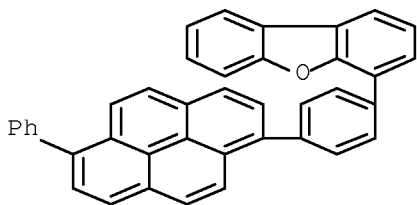
CAS Registry Number
1056113-53-1 CAFLUS

Chemical or Trade Name
Dibenzofuran, 4-[4-(6-[1,1'-biphenyl]-4-yl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



CAS Registry Number
1056113-67-7 CAFLUS

Chemical or Trade Name
Dibenzofuran, 4-[4-(6-phenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



L9 ANSWER 11 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:1046199 CAPLUS [Full-text](#)

Document Number

149:318989

Title

Blue light emitting compound and organic electroluminescent device using the same

Author/Inventor

Je, Jong-Tae; Lee, Sang-Hae; Hwang, Sug-Kwang; Yoo, Seon-Keun

Patent Assignee/Corporate Source

SFC Co., Ltd., S. Korea

Source

U.S. Pat. Appl. Publ., 44pp. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20080203905	A1	20080828	US 2007-820876	20070621
KR 2008079956	A	20080902	KR 2007-20637	20070228
KR 874472	B1	20081218		
JP 2008214332	A	20080918	JP 2007-133381	20070518

Abstract

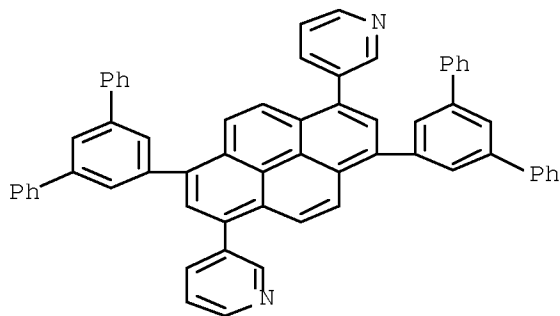
A blue light emitting compound I [A1-4 = C6-20 aryl, which may be substituted with C1-10 alkyl, alkoxy, alkylamino, alkylsilyl, cyano, halo, C6-20 aryloxy, arylamino, arylsilyl, or a C4-19 heteroaryl and A1-4 includes at least one alkylsilyl or arylsilyl; n = 0 or 1] and an organic electroluminescent device using the compound are provided. The device exhibits improved color purity of blue emission and excellent life characteristics so as to be used to manufacture a full-color display.

Hit Structure

CAS Registry Number
1049808-69-6 CAPLUS

Chemical or Trade Name

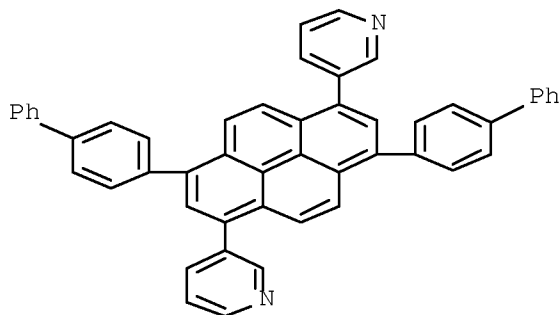
Pyridine, 3,3'-[3,8-bis([1,1':3',1''-terphenyl]-5'-yl)-1,6-pyrenediyl]bis-
(CA INDEX NAME)



CAS Registry Number
1049808-71-0 CAPLUS

Chemical or Trade Name

Pyridine, 3,3'-[3,8-bis([1,1'-biphenyl]-4-yl)-1,6-pyrenediyl]bis-
(CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

_L9 ANSWER 12 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2008:1038917 CAPLUS [Full-text](#)

Document Number
149:278589

Title
Light-emitting materials containing anthracene derivatives and light-emitting elements

Author/Inventor
Suenaga, Masahiro; Sugimoto, Kazunori; Murase, Seichiro

Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
Jpn. Kokai Tokkyo Koho, 26pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008195841	A	20080828	JP 2007-33012	20070214

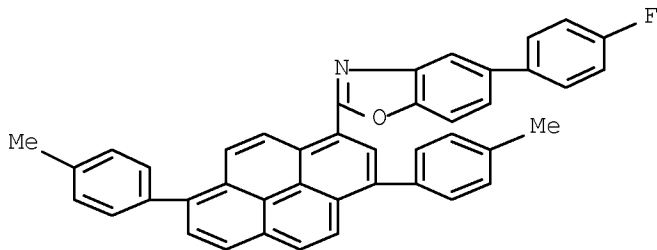
Abstract

The title materials contain anthracene derivs. I (R1-R17 = H, (cyclo)alkyl, heterocyclic, alkoxy, alkylthio, aryl ether, aryl thioether, (hetero)aryl, amino, silyl; R1-R17 may form ring between neighboring groups; Ar1 = (hetero) arylene; Ar2-Ar3 = (hetero)aryl; Ar2 + Ar3 may form ring; X = single bond, (hetero)arylene; n = 1-4; X bonds with R10-R17). Light-emitting devices comprising a pair of anode and cathode sandwiching a light-emitting layer containing the above given materials or those containing the above given materials as hosts and dopants are also claimed. The materials are suitable for forming thin films and give light-emitting devices showing high emission efficiency and long service life.

Hit Structure

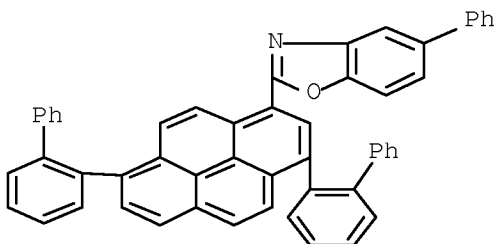
CAS Registry Number
929100-57-2 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-(4-fluorophenyl)-
(CA INDEX NAME)



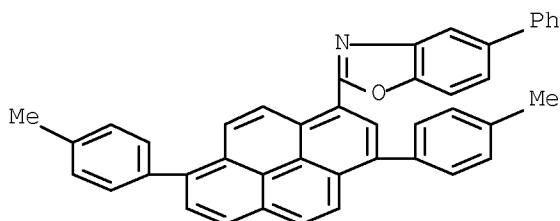
CAS Registry Number
929100-58-3 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis([1,1'-biphenyl]-2-yl)-1-pyrenyl]-5-phenyl- (CA
INDEX NAME)



CAS Registry Number
1048016-03-0 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-phenyl- (CA INDEX NAME)



L9 ANSWER 13 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2008.830594 CAPLUS [Full-text](#)

Document Number
149.115415

Title
Materials for light-emitting devices

Author/Inventor
Kawamoto, Kazunari; Murase, Seichiro; Nagao, Kazuma

Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
Jpn. Kokai Tokkyo Koho, 27pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008159843	A	20080710	JP 2006-347112	20061225

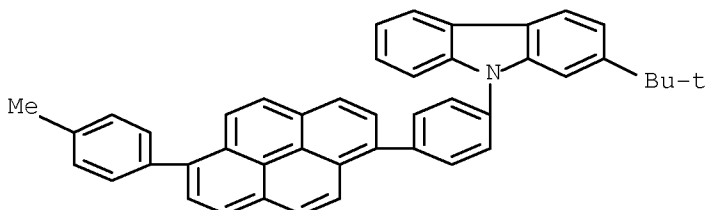
Abstract

The materials contain pyrene compds. (I), where R1 .apprx. R17 = H, alkyl, cyclo-alkyl or heterocyclic group; Ar = arylene or hetero-arylene group; ≥ 1 of R1 .apprx. R17 = alkyl group; R3 and/or R5 = aryl or hetero-aryl group; or R4 = alkyl or cyclo-alkyl group.

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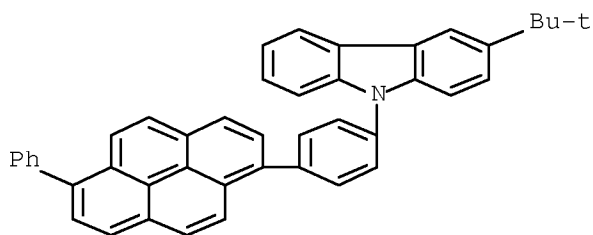
CAS Registry Number
929099-69-4 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3-[1,1-dimethylethyl]-9-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



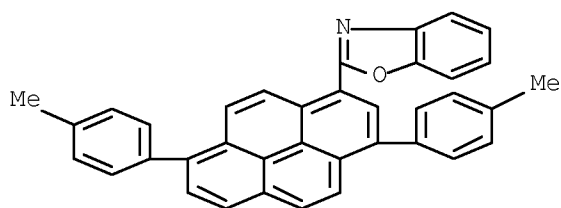
CAS Registry Number
1035113-33-7 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3-[1,1-dimethylethyl]-9-[4-(6-phenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



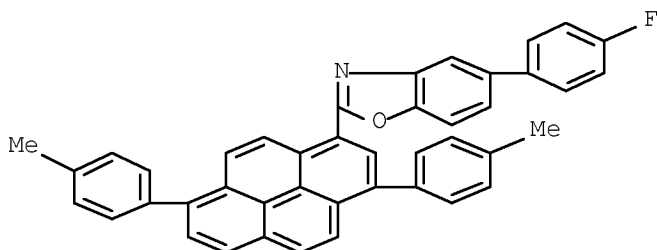
CAS Registry Number
908011-69-8 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



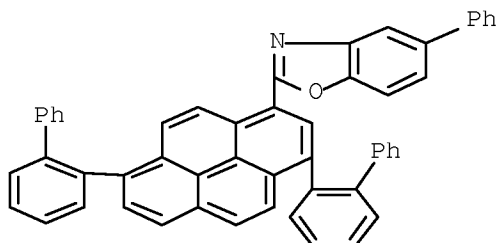
CAS Registry Number
929100-57-2 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-(4-fluorophenyl)- (CA INDEX NAME)



CAS Registry Number
929100-58-3 CAPLUS

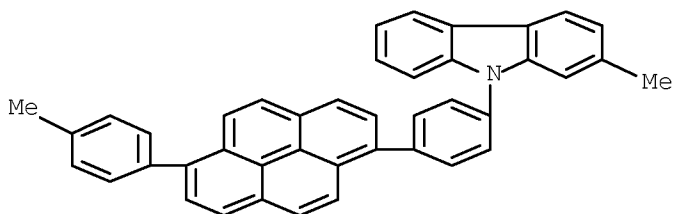
Chemical or Trade Name
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CAS Registry Number
929099-66-1 CAPLUS

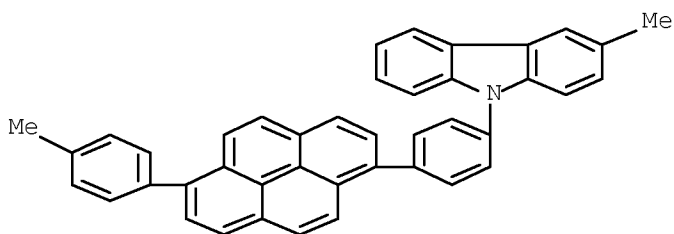
Chemical or Trade Name
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INDEX NAME)



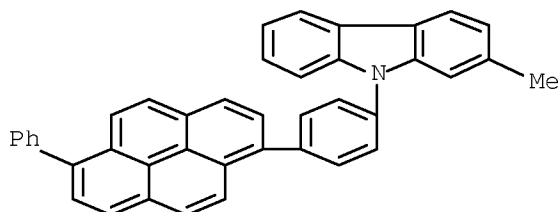
CAS Registry Number
929100-16-3 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3-methyl-9-[4-{6-(4-methylphenyl)-1-pyrenyl}phenyl]- (CA INDEX NAME)



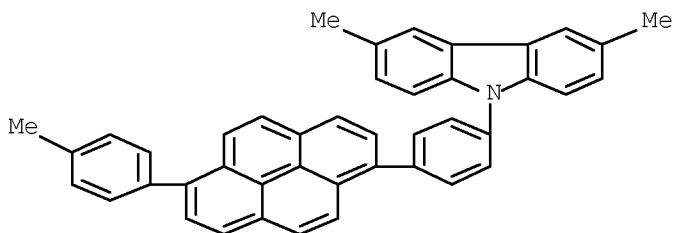
CAS Registry Number
1035113-32-6 CAPLUS

Chemical or Trade Name
9H-Carbazole, 2-methyl-9-[4-(6-phenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



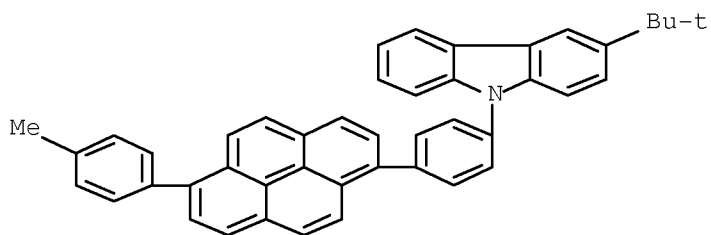
CAS Registry Number
1035113-34-8 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3,6-dimethyl-9-[4-{6-(4-methylphenyl)-1-pyrenyl}phenyl]- (CA INDEX NAME)



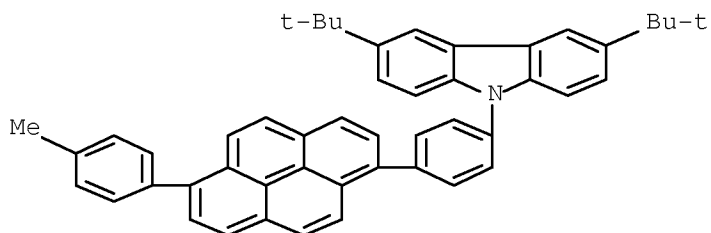
CAS Registry Number
1035113-35-9 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3-(1,1-dimethylethyl)-9-[4-{6-(4-methylphenyl)-1-pyrenyl}phenyl]- (CA INDEX NAME)



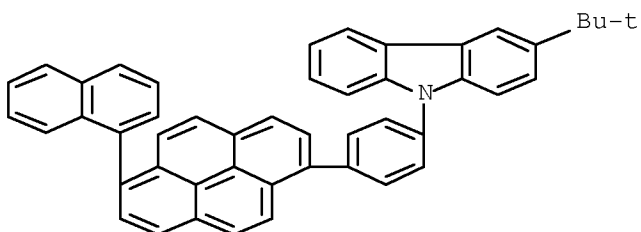
CAS Registry Number
1035113-36-0 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3-bis(1,1-dimethylethyl)-9-[4-(4-methylphenyl)-1-pyrenyl]phenyl- (CA INDEX NAME)



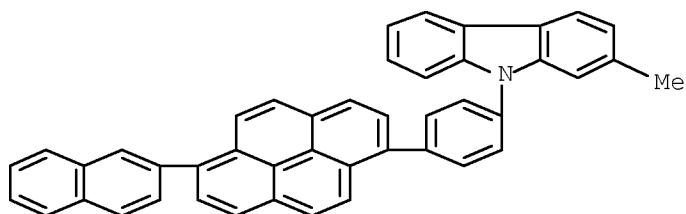
CAS Registry Number
1035113-37-1 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3-(1,1-dimethylethyl)-9-[4-(4-methylphenyl)-1-pyrenyl]phenyl- (CA INDEX NAME)



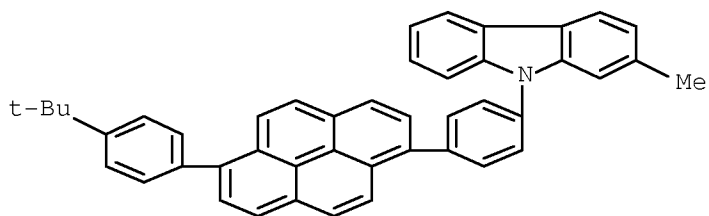
CAS Registry Number
1035113-38-2 CAPLUS

Chemical or Trade Name
9H-Carbazole, 2-methyl-9-[4-(2-naphthalenyl)-1-pyrenyl]phenyl- (CA INDEX NAME)



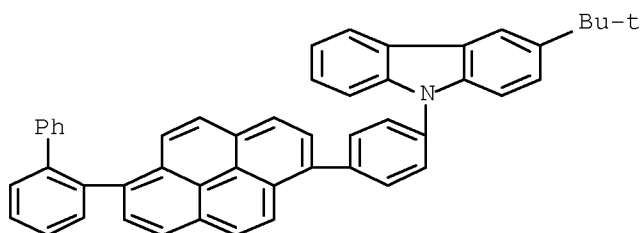
CAS Registry Number
1035113-39-3 CAPLUS

Chemical or Trade Name
9H-Carbazole, 9-[4-(1,1-dimethylethyl)phenyl]-1-pyrenyl]phenyl]-2-methyl- (CA INDEX NAME)



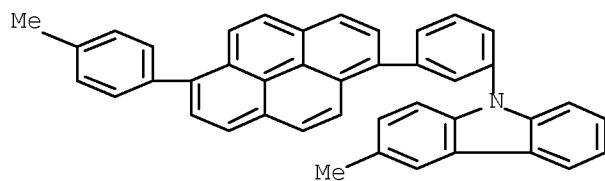
CAS Registry Number
1035113-40-6 CAPLUS

Chemical or Trade Name
9H-Carbazole, 9-[4-(6-[1,1'-biphenyl]-2-yl-1-pyrenyl)phenyl]-3-(1,1-dimethylethyl)- (CA INDEX NAME)



CAS Registry Number
1035113-41-7 CAPLUS

Chemical or Trade Name
9H-Carbazole, 3-methyl-9-[3-(6-(4-methylphenyl)-1-pyrenyl)phenyl]- (CA INDEX NAME)



_L9 ANSWER 14 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:696932 CAPLUS [Full-text](#)

Document Number

149:41410

Title

Light-emitting elements with composite layers

Author/Inventor

Seo, Satoshi; Ohsawa, Nobuharu

Patent Assignee/Corporate Source

Semiconductor Energy Laboratory Co., Ltd., Japan

Source

Eur. Pat. Appl., 34pp. CODEN: EPXXDW

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1930969	A2	20080611	EP 2007-23467	20071204
US 20080261075	A1	20081023	US 2007-946484	20071128
KR 2008051095	A	20080610	KR 2007-124963	20071204
JP 2008166746	A	20080717	JP 2007-313030	20071204

Abstract

Light-emitting devices comprising a **light-emitting** layer between an anode and a cathode; and a first layer and a second layer included in the **light-emitting** layer are described in which the first layer includes a first organic compound and an organic compound having a hole transporting property, the second layer includes a second organic compound and an organic compound having an electron transporting property, the first layer is formed in contact with the second layer, and is located between the second layer and the anode, at least one of the organic compound having the hole transporting property and the organic compound having the electron transporting property is a high mol. weight compound, and the first organic compound and the second organic compound are the same compound. **Light-emitting** devices comprising an anode; a cathode; at least first and second **light-emitting** units between the anode and the cathode; and a charge generating layer between the first and second **light-emitting** units are also described in which each of the **light-emitting** units comprises a first layer including a first organic compound and a second organic compound having a hole transporting property; a second layer in contact with the first layer and including a third organic compound and a fourth organic compound which has an electron transporting property, and in each of the first and second **light-emitting** units, the first layer is located between the anode and the second layer, the second layer is located between the cathode and the first layer, at least one of the second organic compound and the fourth organic compound is a high mol. weight compound, and the first compound is the same as the third compound. The devices may be employed as displays.

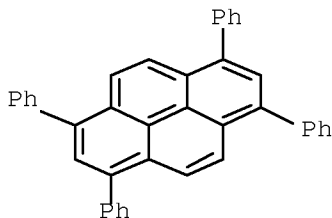
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



_L9 ANSWER 15 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:677847 CAPLUS [Full-text](#)

Document Number

151:66498

Title

Fabrication of ambipolar **light-emitting** transistor using high-photoluminescent organic single crystal

Author/Inventor

Bisri, Satria Z.; Takenobu, Taishi; Yomogida, Yohei; Yamao, Takeshi; Yahiro, Masayuki; Hotta, Shu; Adachi, Chihaya; Iwasa, Yoshihiro

Patent Assignee/Corporate Source

Institute for Materials REsearch, Tohoku Univ., Sendai, 980-8577, Japan

Source

Proceedings of SPIE (2008), 6999(Organic Optoelectronics and Photonics III), 69990Z/1-69990Z/10 CODEN: PSISDG; ISSN: 0277-786X

Document Type

Journal

Language

English

Abstract

Organic single-crystal ambipolar **light-emitting** transistors show a great interest due to their unique features, spectral matching with their active material spectra and the quantum efficiency preservation during ambipolar operation at high c.d. operation in kA/cm² order. The development of ambipolar **light-emitting** transistor based on high photoluminescent material, *a,a*-bis(biphenyl)terthiophene (BP3T) single crystal is reported. By using bottom-gated top-contact configuration, with Ca and Au opposed metal electrodes, high value of hole and electron mobility were obtained. Extremely bright **light** emission observed during ambipolar operation shows prospect for elec. driven amplified spontaneous emission from organic materials.

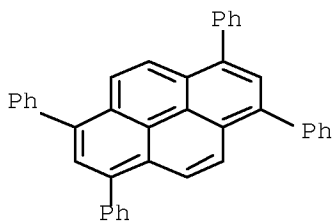
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



_ L9 ANSWER 16 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:636727 CAPLUS [Full-text](#)

Document Number

148:574178

Title

Organic electroluminescent device

Author/Inventor

Arakane, Takashi; Fukuoka, Kenichi

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 68pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008062773	A1	20080529	WO 2007-JP72427	20071120
US 20080193796	A1	20080814	US 2007-943309	20071120
KR 2009083382	A	20090803	KR 2009-710215	20071120

Abstract

Disclosed is an organic electroluminescent device which comprises at least a **light**-emitting layer, an electron transporting layer and an electron injection layer between a cathode and an anode. The **light**-emitting layer contains a host material composed of a pyrene derivative, a chrysene derivative, a fluorene derivative or an anthracene derivative. The electron transporting layer contains an electron transporting material which is composed of a pyrene derivative, a chrysene derivative, a fluorene derivative or an anthracene derivative having no heterocyclic ring, and has a fluorescence quantum yield lower than that of the host material contained in the **light**-emitting layer. The electron injection layer contains a compound having a noncomplex N-containing five-membered heterocyclic structure.

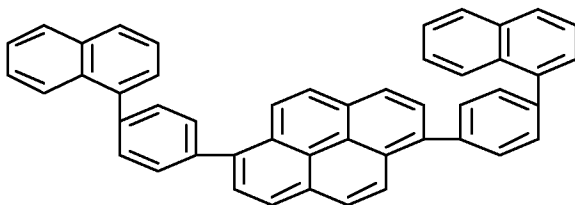
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CAS Registry Number

1026768-29-5 CAPLUS

Chemical or Trade Name

Pyrene, 1,6-bis[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)

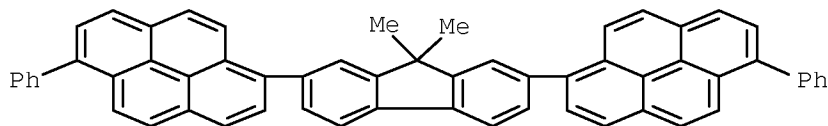


CAS Registry Number

1026768-22-8 CAPLUS

Chemical or Trade Name

Pyrene, 1,1'-(9,9-dimethyl-9H-fluorene-2,7-diyl)bis[6-phenyl]- (CA INDEX NAME)



_ L9 ANSWER 17 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2008:444977 CAPLUS [Full-text](#)

Document Number

148:413990

Title

Light emitting device material and light emitting device

Author/Inventor

Ogawa, Takashi; Murase, Seichiro; Tominaga, Takeshi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 20pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008081704	A	20080410	JP 2006-266719	20060929

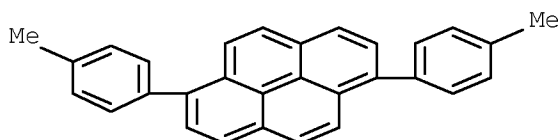
Abstract

The invention refers to a pyrene compound used in an electroluminescent device, wherein the pyrene structure may contain alkyl, cycloalkyl, heterocycle, alkenyl, cycloalkenyl, aryl, heteroaryl, halo, cyano, carbonyl, carboxyl, oxycarbonyl, carbamoyl or phosphine oxide substituents or condensed rings formed with adjacent substituents, and at least one of the substituents is an ethynyl aryl, or ethynyl heteroaryl.

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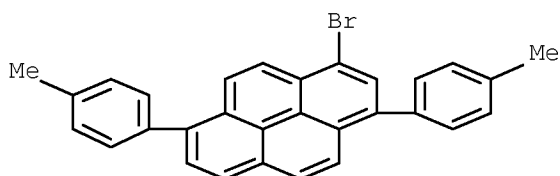
CAS Registry Number
908011-87-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(4-methylphenyl)- (CA INDEX NAME)



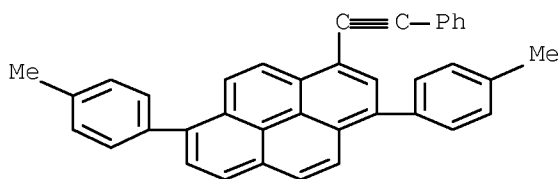
CAS Registry Number
908011-88-1 CAPLUS

Chemical or Trade Name
Pyrene, 3-bromo-1,6-bis(4-methylphenyl)- (CA INDEX NAME)



CAS Registry Number
1015482-03-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(4-methylphenyl)-3-(2-phenylethynyl)- (CA INDEX NAME)



Accession Number
2007:1454772 CAPLUS [Full-text](#)
Document Number
148:65782

Title
Material for **light-emitting device**, and **light-emitting device**

Author/Inventor
Nagao, Kazumasa; Murase, Seichiro
Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
PCT Int. Appl., 55 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007145136	A1	20071221	WO 2007-JP61597	20070608
EP 2028249	A1	20090225	EP 2007-767065	20070608
KR 2009017475	A	20090218	KR 2008-724201	20081002
CN 101473012	A	20090701	CN 2007-80022429	20081215

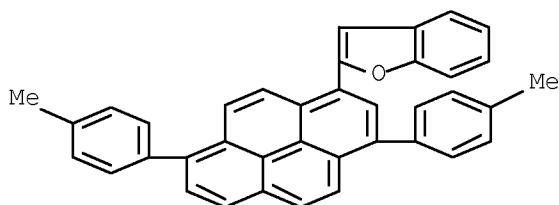
Abstract

Disclosed is a material for a **light-emitting device**, which comprises a pyrene compound represented by the general formula I. The material can produce a **light-emitting device** having high efficiency and excellent color purity and durability. Also disclosed is a **light-emitting device** using the above material, wherein any one of R1 to R10 represents a group represented by the general formula II or any one to four of R1 to R10 independently represent a group represented by the general formula.

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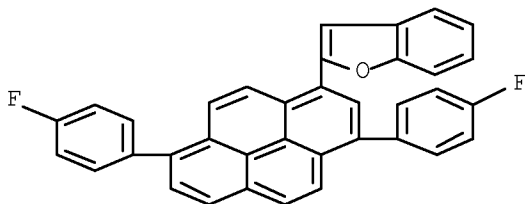
CAS Registry Number
959900-13-1 CAPLUS

Chemical or Trade Name
Benzofuran, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



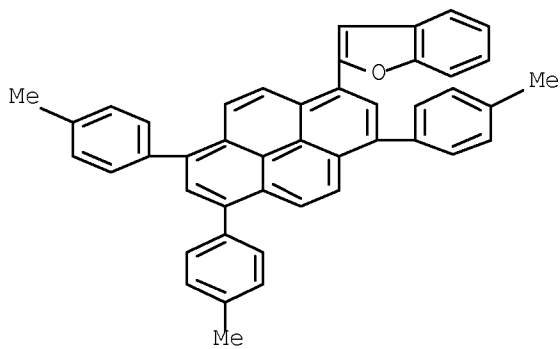
CAS Registry Number
959900-14-2 CAPLUS

Chemical or Trade Name
Benzofuran, 2-[3,8-bis(4-fluorophenyl)-1-pyrenyl]- (CA INDEX NAME)



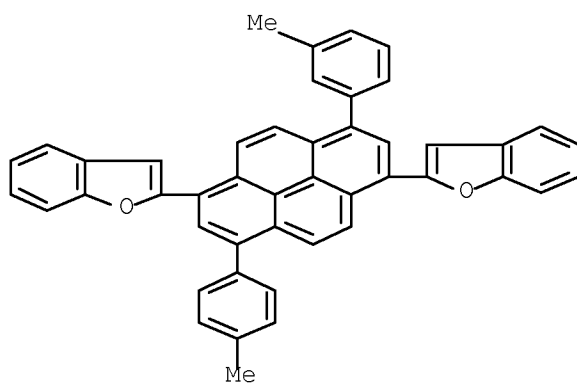
CAS Registry Number
959900-15-3 CAPLUS

Chemical or Trade Name
Benzofuran, 2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



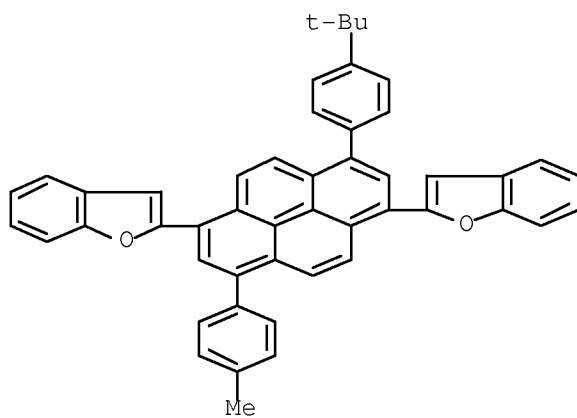
CAS Registry Number
959900-17-5 CAPLUS

Chemical or Trade Name
Benzo[1,2-b:4,5-b']dipyrrolo[3,2-a:1',2'-d']phenylene, 2,2'-bis(4-methylphenyl)-8-(4-methylphenyl)-1,6-pyrenediyl]bis-
(CA INDEX NAME)



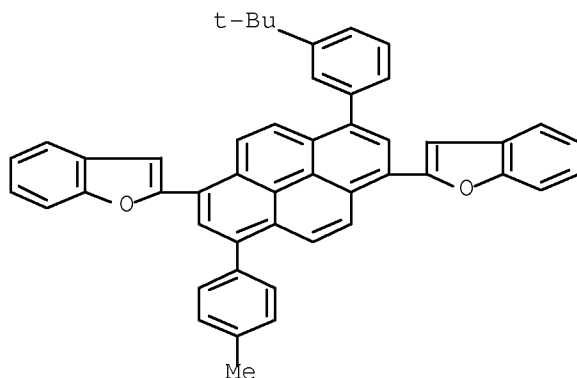
CAS Registry Number
959900-18-6 CAPLUS

Chemical or Trade Name
Benzo[1,2-b:4,5-b']dipyrrolo[3,2-a:1',2'-d']phenylene, 2,2'-bis[4-(1,1-dimethylethyl)phenyl]-8-(4-methylphenyl)-1,6-pyrenediyl]bis-
(CA INDEX NAME)



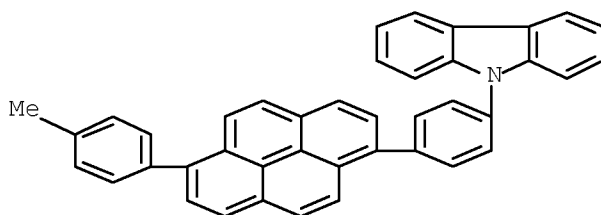
CAS Registry Number
959900-19-7 CAPLUS

Chemical or Trade Name
 Benzofuran, 2,2'-[3-[3-(1,1-dimethylethyl)phenyl]-8-(4-methylphenyl)-1,6-pyrenediyl]bis- (CA INDEX NAME)



CAS Registry Number
 929099-54-7 CAPLUS

Chemical or Trade Name
 9H-Carbazole, 9-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
 (1 CITINGS)

L9 ANSWER 19 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
 2007:1332304 CAPLUS [Full-text](#)

Document Number
 147:531191

Title
 Organic electroluminescence element

Author/Inventor
 Kuma, Hitoshi; Yamamoto, Hiroshi; Hosokawa, Chishio

Patent Assignee/Corporate Source
 Idemitsu Kosan Co., Ltd., Japan

Source
 PCT Int. Appl., 69 pp. CODEN: PIXXD2

Document Type
 Patent

Language
 Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007132704	A1	20071122	WO 2007-JP59564	20070509
EP 2034803	A1	20090311	EP 2007-742999	20070509
KR 2009007749	A	20090120	KR 2008-727476	20081110
US 20090206736	A1	20090820	US 2008-300132	20081110
CN 101444141	A	20090527	CN 2007-80017062	20081111

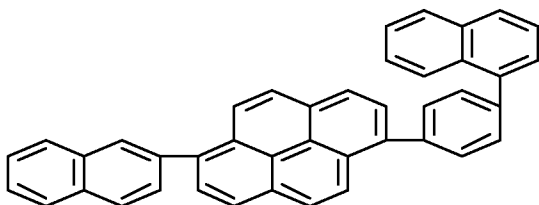
Abstract

In an organic EL element, at least two organic light emitting layers are arranged between an anode and a cathode, and at least one intermediate connecting layer is arranged between the organic light emitting layers. In the intermediate connecting layer, an acceptor layer, a donor layer and an electron transport material layer including an aromatic ring-compound which is not a metallic complex are laminated in this order from the side of the cathode.

Hit Structure

CAS Registry Number
 870774-21-3 CAPLUS

Chemical or Trade Name
 Pyrene, 1-(2-naphthalenyl)-6-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



L9 ANSWER 20 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:1300762 CAPLUS [Full-text](#)

Document Number

147:541990

Title

Preparation of arylsilanes and organic electroluminescent device utilizing the same

Author/Inventor

Ito, Mitsunori

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 54pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007129702	A1	20071115	WO 2007-JP59499	20070508
KR 2009018901	A	20090224	KR 2008-727359	20081107
US 20090236975	A1	20090924	US 2009-299967	20090213

Abstract

There is disclosed a novel silicon compound of a specific structure having a substituted silyl group [I; FA1 = (un)substituted C8-50 condensed ring group; L1, L2, Ar1-Ar6 = each (un)substituted C6-50 aromatic hydrocarbyl, C3-50 aromatic heterocyclyl, C8-50 condensed aromatic group, C1-10 alkyl; a, b, d, e = an integer of 0-6, provided that a + e ≥ 1; c = an integer of 1-6; when FA1 = anthylene and a = e = 1, L1 = L2 ≠ phenylene]. There is also disclosed an organic electroluminescent device wherein an organic thin film composed of one or more layers including at least a **light**-emitting layer is interposed between a cathode and an anode. In this organic electroluminescent device, at least one layer of the organic thin film contains the silicon compound I by itself or as a component of a mixture. The organic electroluminescent device enables to obtain **light** emission having high luminous efficiency, high color purity, and long life. Thus, 1,4-diiodobenzene was treated with 1.4 M BuLi/hexane in toluene/Et₂O (1/1) at -78 to -20° for 10 min and at -20° for 1 h, treated dropwise with a solution of triphenylsilyl chloride in toluene at -78° over 20 min, and stirred for 1 h and at room temperature for overnight to give 65.4% (4-iodophenyl)triphenylsilane (II). II and [3-[9-(1-naphthyl)anthracen-5-yl]phenyl]boronic acid were heated in the presence of tetrakis(triphenylphosphine)palladium in a mixture of 2 M aqueous Na₂CO₃ solution, 1,2-dimethoxyethane, and toluene under refluxing at 90° for 8 h to give 84.6% [3'-[9-(1-naphthyl)anthracen-5-yl]-1,1'-biphenyl-4-yl]triphenylsilane (III). An organic electroluminescent device with a luminescent layer of III showed luminescent efficiency of 11.6 cd/A and service life of 9250 h at 1000 cd/m².

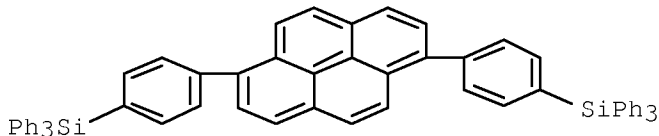
Hit Structure

CAS Registry Number

956776-75-3 CAPLUS

Chemical or Trade Name

Pyrene, 1,6-bis[4-(triphenylsilyl)phenyl]- (CA INDEX NAME)



L9 ANSWER 21 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:1293072 CAPLUS [Full-text](#)

Document Number

148:108619

Title

Steric Inhibition of π -Stacking: 1,3,6,8-Tetraarylpyrenes as Efficient Blue Emitters in Organic **Light** Emitting Diodes (OLEDs)

Author/Inventor

Moorthy, Jarugu Narasimha; Natarajan, Palani; Venkatakrishnan, Parthasarathy; Huang, Duo-Fong; Chow, Tahsin J.

Patent Assignee/Corporate Source

Department of Chemistry, Indian Institute of Technology, Kanpur, 208016, India

Source

Organic Letters (2007), 9(25), 5215-5218 CODEN: ORLEF7; ISSN: 1523-7060

Document Type

Journal

Language

English

Abstract

The sterically congested tetraarylpyrenes 1-3, which can be readily accessed by Suzuki coupling, exhibit no-aggregation (π -stacking) behavior in both solution and solid states. The indisposed tendency of 1-3 toward crystallization and their moderate mol. dimensions permit exploitation as blue **light** emitting materials in OLEDs with respectable device performances.

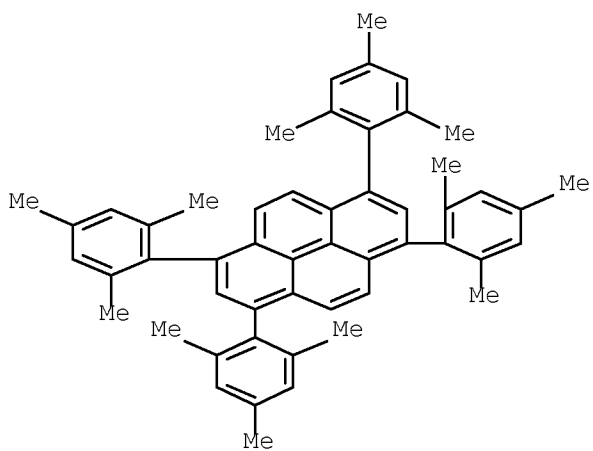
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CAS Registry Number

1000391-93-4 CAPLUS

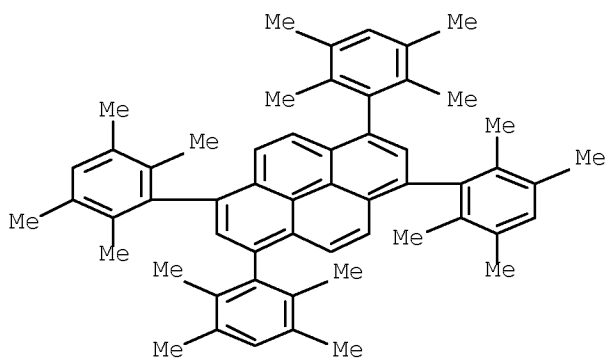
Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis(2,4,6-trimethylphenyl)- (CA INDEX NAME)



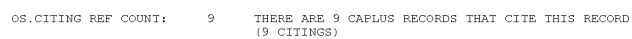
CAS Registry Number
1000391-94-5 CABLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(2,3,5,6-tetramethylphenyl)- (CA INDEX NAME)



CAS Registry Number
1000391-95-6 CABLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(4-methoxy-2,6-dimethylphenyl)- (CA INDEX NAME)



_L9 ANSWER 22 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:1090832 CAPLUS [Full-text](#)

Document Number

147:417551

Title

New diamine derivatives, preparation method thereof and organic electronic device using the same

Author/Inventor

Jang, Hye-Young; Lee, Jae-Chol; Park, Jin-Kyoon; Kim, Kong-Kyeom; Kim, Ji-Eun; Park, Tae-Yoon; Hong, Sung-Kil; Jeon, Sang-Young; Jeong, Dong-Seob

Patent Assignee/Corporate Source

LG Chem, Ltd., S. Korea

Source

PCT Int. Appl., 85 pp. CODEN: PIXXD2

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007108666	A1	20070927	WO 2007-KR1448	20070323
KR 2007096917	A	20071002	KR 2007-28835	20070323
KR 877876	B1	20090113		
EP 1996540	A1	20081203	EP 2007-715784	20070323
JP 2009530371	T	20090827	JP 2009-501361	20070323
KR 2008071969	A	20080805	KR 2008-72695	20080725
KR 867526	B1	20081106		
CN 101405255	A	20090408	CN 2007-80010256	20080923
US 20090134781	A1	20090528	US 2008-225483	20080923

Abstract

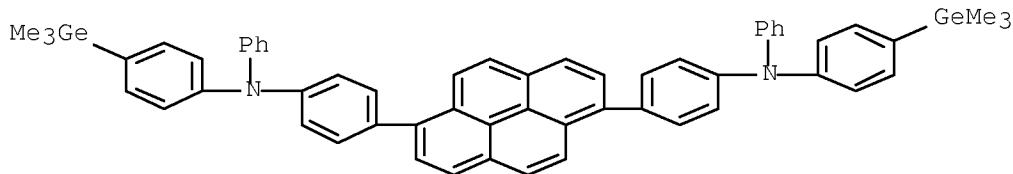
The title diamine derivs. are described by the general formula (Z1-Y1)-(A1)-N-L-N(-A2)(-Y2-Z2) (L = C6-30 aryl; A1 and A2 = independently selected Ph or naphthyl groups with 1-5 substituents, ≥ 1 of which is selected from -GeRR'R', -SiRR'R', and D with the remaining substituents being independently selected from H, CN, NO₂, C6-20 arylamine, C6-20 arylthiophene, C3-20 cycloalkyl, -OR, -SR, -SeR, -TeR, -BRR', -AlRR', -SnRR'R', C6-20 aryl, C8-20 arylalkenyl, and C4-20 alkylene which forms a fused ring with the Ph or the naphthyl; Y1 and Y2 = independently selected C6-20 arylene or divalent C5-20 heterocycle; Z1 and Z2 are = independently selected H₀, halo, D, CN, NO₂, C1-20 alkyl, C1-20 alkoxy, C6-20 aryl, C6-20 arylamine, C6-20 arylthiophene, C3-20 cycloalkyl, -OR, -SR, -SeR, -TeR, -BRR', -AlRR', -SiRR'R', -GeRR'R', -SnRR'R', C8-20 arylalkenyl, and C4-20 alkylene which forms a fused ring with the Ph or the naphthyl; and R, R' and R" = independently selected H, C1-20 alkyl, C3-20 cycloalkyl, C6-20 aryl, or C5-20 heterocycle). Methods for preparing the diamine derivs. are described which entail reacting a dibromoaryl compound with an arylamine compound in the presence of a Pd catalyst. Electronic devices (e.g., organic light-emitting devices, organic photovoltaic cells, organic photoconductors, and organic transistors) employing the derivs. in ≥ 1 layer between a pair of electrodes are also described. The diamine derivs. can serve in a hole-injecting and/or hole-transporting layer, an electron-transporting layer, or a light-emitting layer.

Hit Structure

CAS Registry Number
951038-84-9 CAPLUS

Chemical or Trade Name

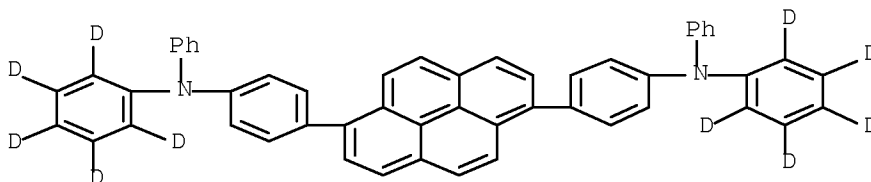
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N-phenyl-N-[4-(trimethylgermyl)phenyl]- (CA INDEX NAME)



CAS Registry Number
951039-16-0 CAPLUS

Chemical or Trade Name

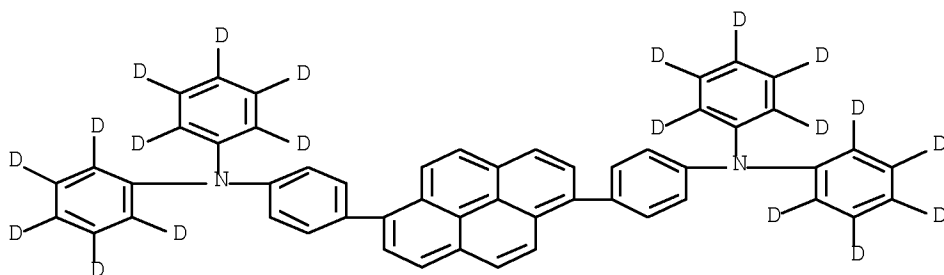
Benzen-2,3,4,5,6-d5-amine, N,N'-(1,6-pyrenediyl-di-4,1-phenylene)bis(N-phenyl- (CA INDEX NAME)



CAS Registry Number
951039-17-1 CAPLUS

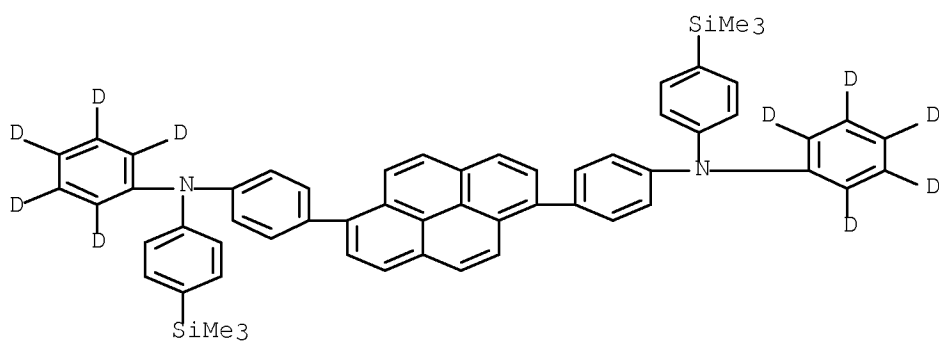
Chemical or Trade Name

Benzen-2,3,4,5,6-d5-amine, N,N'-(1,6-pyrenediyl-di-4,1-phenylene)bis(N-(phenyl-2,3,4,5,6-d5)- (CA INDEX NAME)



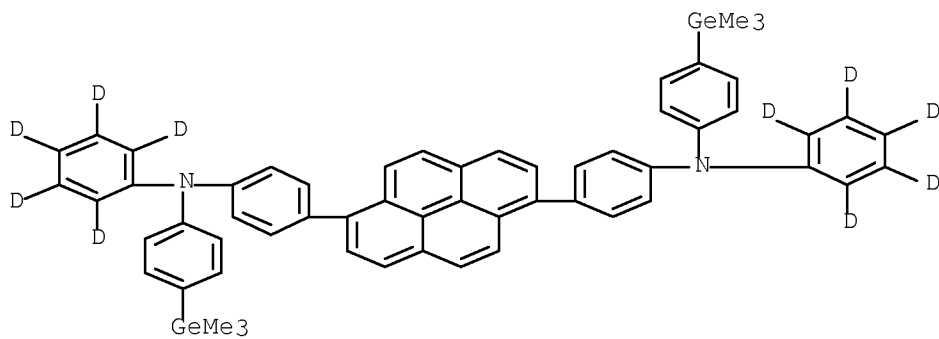
CAS Registry Number
951039-18-2 CAPLUS

Chemical or Trade Name
Benzen-2,3,4,5,6-d₅-amine, N,N'-(1,6-pyrenediyl-di-4,1-phenylene)bis[N-(4-(trimethylsilyl)phenyl)-] (CA INDEX NAME)



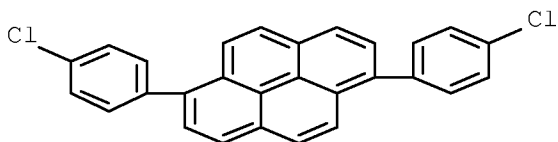
CAS Registry Number
951039-19-3 CAPLUS

Chemical or Trade Name
Benzen-2,3,4,5,6-d₅-amine, N,N'-(1,6-pyrenediyl-di-4,1-phenylene)bis[N-(4-(trimethylgermyl)phenyl)-] (CA INDEX NAME)



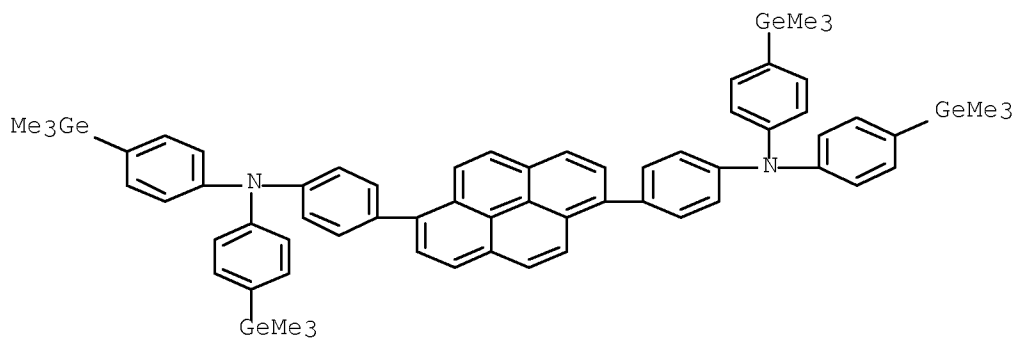
CAS Registry Number
951039-40-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(4-chlorophenyl)- (CA INDEX NAME)



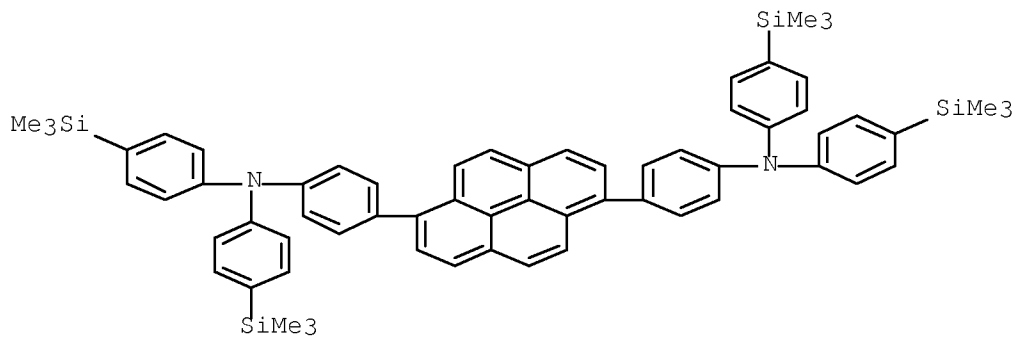
CAS Registry Number
951038-85-0 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N,N-bis[4-(trimethylgermyl)phenyl]-
(CA INDEX NAME)



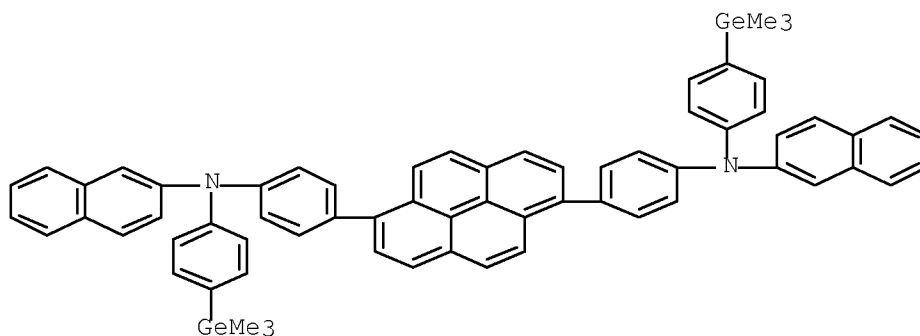
CAS Registry Number
951038-86-1 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N,N-bis[4-(trimethylsilyl)phenyl]-
(CA INDEX NAME)



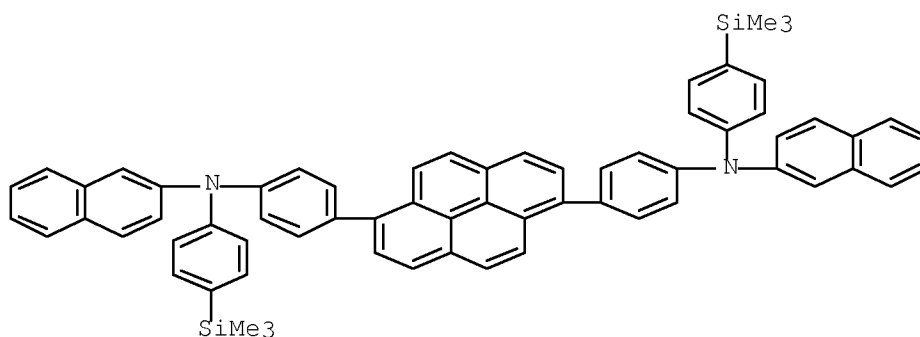
CAS Registry Number
951038-87-2 CAPLUS

Chemical or Trade Name
2-Naphthalenamine, N,N'-(1,6-pyrenediyl)-4,1-phenylene)bis[N-[4-(trimethylgermyl)phenyl]-
(CA INDEX NAME)



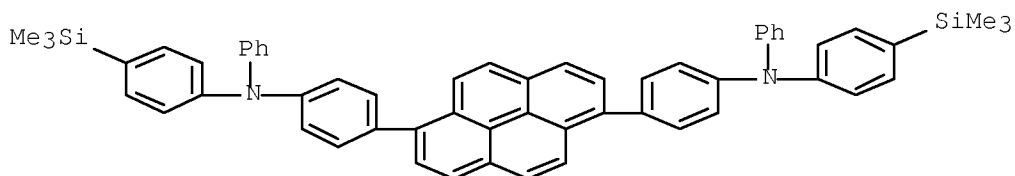
CAS Registry Number
951038-88-3 CAPLUS

Chemical or Trade Name
2-Naphthalenamine, N,N'-(1,6-pyrenediyl)-4,4'-bis[4-(trimethylsilyl)phenyl]- (CA INDEX NAME)



CAS Registry Number
951039-61-5 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N-phenyl-N-(4-(trimethylsilyl)phenyl)]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

L9 ANSWER 23 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:1089874 CAPLUS [Full-text](#)

Document Number
147:406555

Title

Preparation of pyrene derivatives as organic transistor materials for **light** emitting transistor elements

Author/Inventor

Adachi, Chihaya; Oyamada, Takahito; Uchiuzou, Hiroyuki; Akiyama, Seiji; Takahashi, Takayoshi; Takenouchi, Kumiko; Shimizu, Masaki; Hiyama, Tamejiro; Okamoto, Etsuya

Patent Assignee/Corporate Source

Kyoto University, Japan; Pioneer Corporation; Hitachi, Ltd.; Mitsubishi Chemical Corporation; Rohm Co., Ltd.

Source

PCT Int. Appl., 87pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007108457	A1	20070927	WO 2007-JP55603	20070920
JP 2008101182	A	20080501	JP 2007-30093	20070209
US 20090179196	A1	20090716	US 2008-225370	20081219

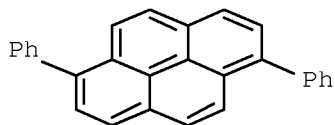
Abstract

This invention pertains to a method for producing pyrene derivs. I and II [wherein X and Y = independently (un)substituted aryl, heteroaryl, alkyl, etc.] as light emitting transistor materials. For example, pyrene was reacted with NBS to give 1,6- and 1,8-dibromopyrene mixture. The above mixture was treated with a variety of arylboronic acids to provide corresponding pyrene derivs. The invention pyrene derivs. showed good light emitting properties compared to the conventional compound

Hit Structure

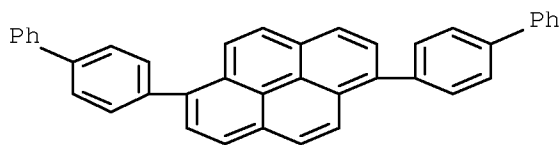
CAS Registry Number
55009-75-1 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-diphenyl- (CA INDEX NAME)



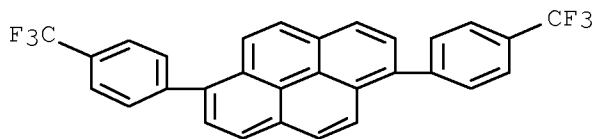
CAS Registry Number
722498-71-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



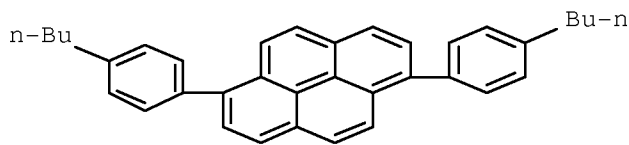
CAS Registry Number
950779-02-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



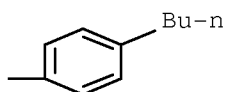
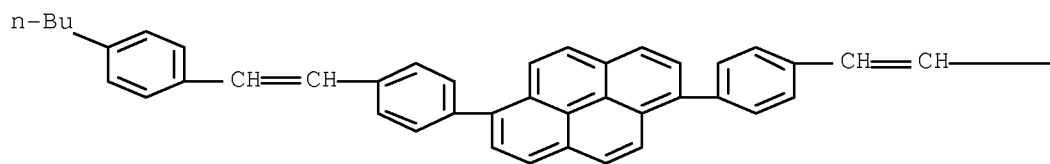
CAS Registry Number
950779-03-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis[4-(2-(4-butylphenyl)ethenyl)phenyl]- (CA INDEX NAME)



CAS Registry Number
950779-06-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis[4-[2-(4-butylphenyl)ethenyl]phenyl]- (CA INDEX NAME)



_L9 ANSWER 24 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:998326 CAPLUS [Full-text](#)

Document Number

147:334326

Title

Organic electroluminescent device

Author/Inventor

Takashima, Yoriyuki; Funahashi, Masakazu; Ikeda, Kiyoshi; Hosokawa, Chishio

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 126pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007100010	A1	20070907	WO 2007-JP53806	20070228
US 20070243411	A1	20071018	US 2007-679531	20070227
EP 1990844	A1	20081112	EP 2007-737525	20070228
IN 2008CN04438	A	20090313	IN 2008-CN4438	20080822
KR 2008114702	A	20081231	KR 2008-721039	20080827
CN 101390230	A	20090318	CN 2007-80006855	20080827

Abstract

Disclosed is an organic electroluminescent device wherein an organic thin film composed of one or more layers including at least a light-emitting layer is interposed between a cathode and an anode. Since the light-emitting layer contains at least one compound having a specific fluoranthene structure and at least one fused ring-containing compound having a specific structure, the organic electroluminescent device is able to obtain blue light emission, while having long life and high luminous efficiency.

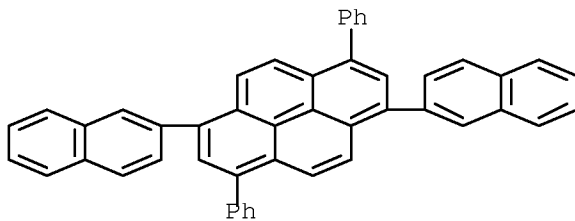
Hit Structure

CAS Registry Number

948048-97-3 CAPLUS

Chemical or Trade Name

Pyrene, 1,6-di-2-naphthalenyl-3,8-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

_L9 ANSWER 25 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:993620 CAPLUS [Full-text](#)

Document Number

147:332701

Title

Organic electroluminescent device of multi-photon emission mode having uniform luminance in a large-area format by use of a charge generation layer

Author/Inventor

Itai, Yuichiro

Patent Assignee/Corporate Source

Fujifilm Corporation, Japan

Source

U.S. Pat. Appl. Publ., 21 pp. CODEN: USXXCO

Document Type
Patent
Language
English
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070205411	A1	20070906	US 2007-713027	20070302
JP 2007242733	A	20070920	JP 2006-60246	20060306

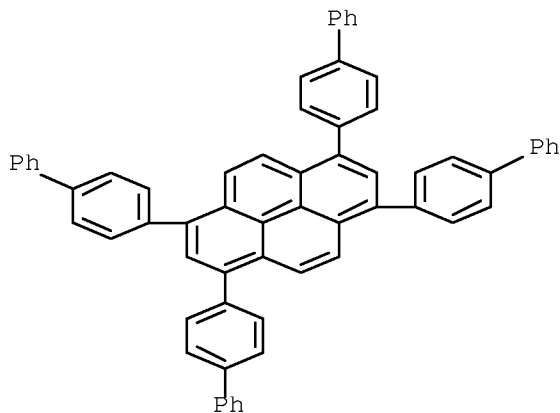
Abstract

Organic electroluminescent devices of multi-photon emission mode are described which comprise plural light emission layers and at least one charge generation layer between a pair of electrodes, arranged in a film thickness direction, where the charge generation layer includes at least one p-doped layer and at least one n-doped layer, and further includes an alkali metal layer and a layer containing a hole transport material between the p-doped layer and the n-doped layer. An organic electroluminescent device of multi-photon emission mode exhibiting little unevenness in luminance even in a large-area format electroluminescence device is provided.

Hit Structure

CAS Registry Number
790273-07-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



_L9 ANSWER 26 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:993110 CAPLUS [Full-text](#)

Document Number
147:332698

Title
Light emitting device material and **light** emitting device

Author/Inventor
Murase, Seiichiro
Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
Jpn. Kokai Tokkyo Koho, 20pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007224171	A	20070906	JP 2006-47984	20060224

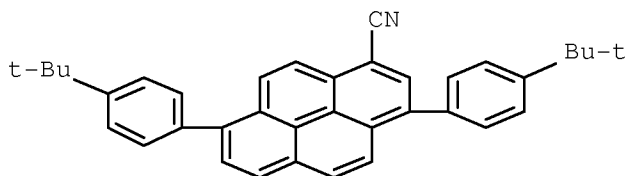
Abstract

The invention relates to a **light**-emitting device material, suited for use in an organic electroluminescent device, represented by I [R1-10 = H, alkyl, cycloalkyl, etc.; n = 1-4 integer; * one of R1-10 is linked to -C.tplbond.N].

Hit Structure

CAS Registry Number
947617-76-7 CAPLUS

Chemical or Trade Name
1-Pyrenecarbonitrile, 3,8-bis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



_L9 ANSWER 27 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:911378 CAPLUS [Full-text](#)

Document Number
147:265970

Title
Light emitting element with high emission efficiency containing pyrenes, pyromethanes, and/or metal complexes thereof

Author/Inventor
Ikeda, Takeshi; Murase, Seiichiro; Tominaga, Takeshi
Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
Jpn. Kokai Tokkyo Koho, 53pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007208165	A	20070816	JP 2006-27944	20060206

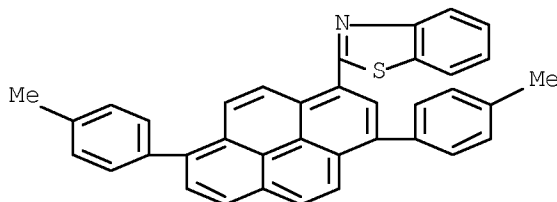
Abstract

Disclosed is a **light** emitting element comprising a **light** -emitting layer between pos. and neg. electrodes containing pyrenes, pyromethanes, and/or metal complexes thereof.

Hit Structure

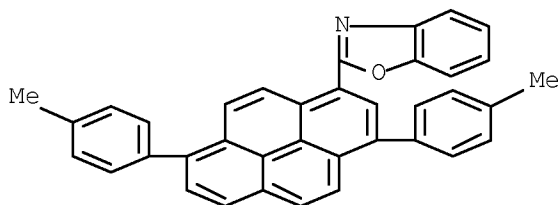
CAS Registry Number
908011-68-7 CAPLUS

Chemical or Trade Name
Benzothiazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number
908011-69-8 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



L9 ANSWER 28 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:780909 CAPLUS [Full-text](#)

Document Number
147:153732

Title
Pyrene-based electron transporting compounds and organic light emitting devices with decreased driving voltage comprising the electron transporting compound

Author/Inventor
Kim, Jung Keun; Seo, Jeongdae; Jeong, Hyun Cheol; Bin, Jong Kwan; Park, Chungun
Patent Assignee/Corporate Source
Lg Electronics Inc., S. Korea

Source
Eur. Pat. Appl., 36pp. CODEN: EPXXDW

Document Type
Patent

Language
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1808912	A2	20070718	EP 2007-776	20070116
KR 681027	B1	20070209	KR 2006-4687	20060116
KR 681025	B1	20070209	KR 2006-4688	20060116
KR 681026	B1	20070209	KR 2006-4689	20060116
US 20070167626	A1	20070719	US 2007-653243	20070116
CN 101003508	A	20070725	CN 2007-10008306	20070116

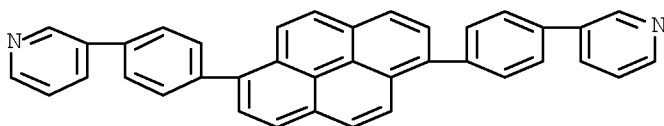
Abstract

Electron transporting compound with Formula (I) and organic light emitting devices employing the electron transporting compound to decrease driving voltage are provided, where A is a substituted or unsubstituted group consisting of pyridinyl, quinolinyl, isoquinolinyl, quinoxalinyl, bipyridinyl, terpyridinyl, and phenanthrolinyl; and B and C are substituted or unsubstituted groups consisting of Ph, biphenyl, naphthyl, fluorenyl, terphenyl, phenanthrolinyl, phenanthryl, and anthryl.

Hit Structure

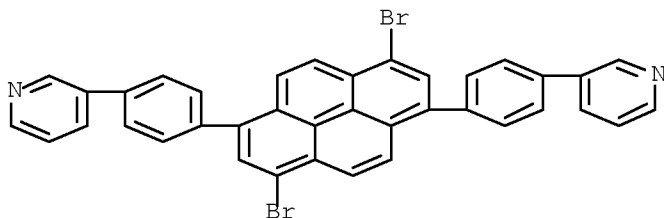
CAS Registry Number
1057107-22-8 CAPLUS

Chemical or Trade Name
INDEX NAME NOT YET ASSIGNED



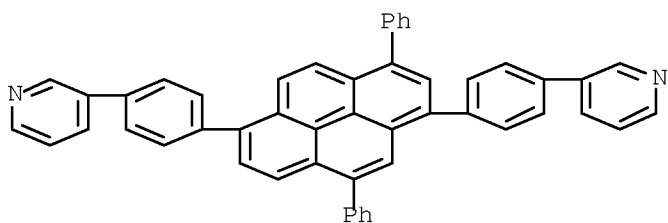
CAS Registry Number
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Chemical or Trade Name
INDEX NAME NOT YET ASSIGNED



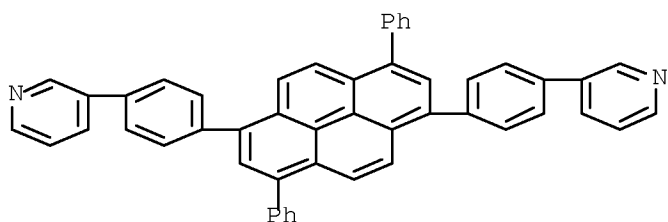
CAS Registry Number
1057107-24-0 CAPLUS

Chemical or Trade Name
INDEX NAME NOT YET ASSIGNED



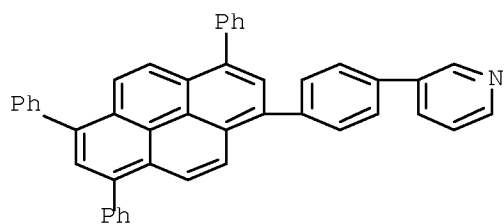
CAS Registry Number
943643-33-2 CAPLUS

Chemical or Trade Name
Pyridine, 3,3'-[(3,8-diphenyl-1,6-pyrenediyl)di-4,1-phenylene]bis- (CA INDEX NAME)



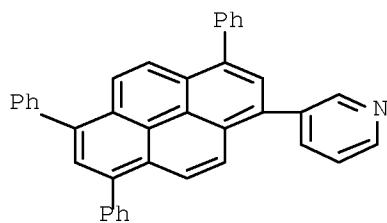
CAS Registry Number
943643-40-1 CAPLUS

Chemical or Trade Name
Pyridine, 3-[4-(3,6,8-triphenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



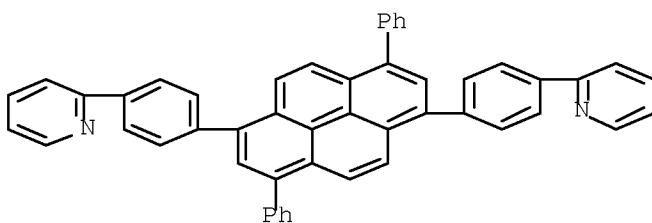
CAS Registry Number
943643-46-7 CAPLUS

Chemical or Trade Name
Pyridine, 3-(3,6,8-triphenyl-1-pyrenyl)- (CA INDEX NAME)



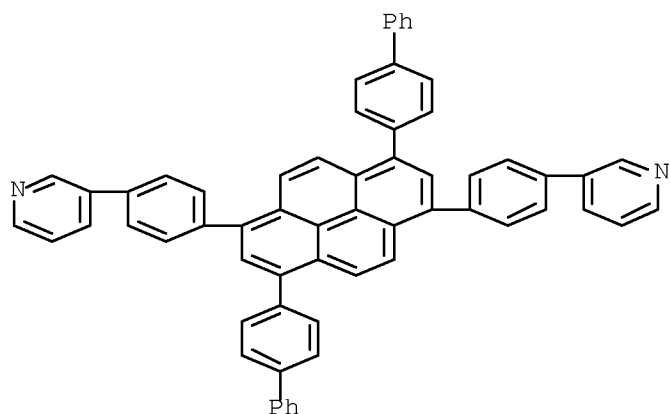
CAS Registry Number
943643-34-3 CAPLUS

Chemical or Trade Name
Pyridine, 2,2'-[(3,8-diphenyl-1,6-pyrenediyl)di-4,1-phenylene]bis- (CA INDEX NAME)



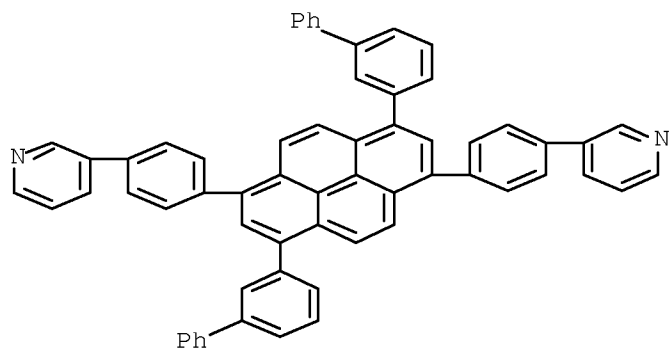
CAS Registry Number
943643-35-4 CAPLUS

Chemical or Trade Name
Pyridine, 3,3'-bis-([3,8-bis-([1,1'-biphenyl]-4-yl)-1,6-pyrenediyl]di-4,1-phenylene)bis- (CA INDEX NAME)



CAS Registry Number
943643-36-5 CAPLUS

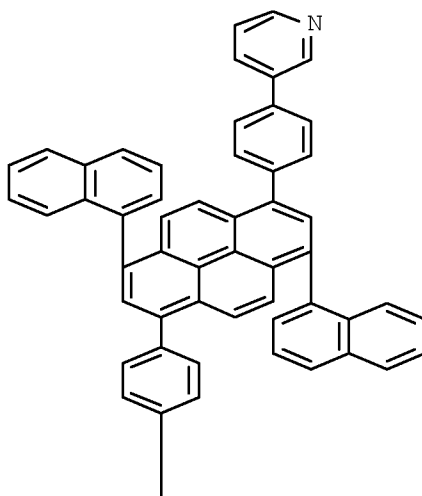
Chemical or Trade Name
Pyridine, 3,3'-bis-([3,8-bis-([1,1'-biphenyl]-3-yl)-1,6-pyrenediyl]di-4,1-phenylene)bis- (CA INDEX NAME)



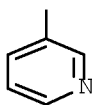
CAS Registry Number
943643-37-6 CAPLUS

Chemical or Trade Name
Pyridine, 3,3'-bis-([3,8-bis-([1,1'-naphthalenyl]-1,6-pyrenediyl]di-4,1-phenylene)bis- (CA INDEX NAME)

PAGE 1-A



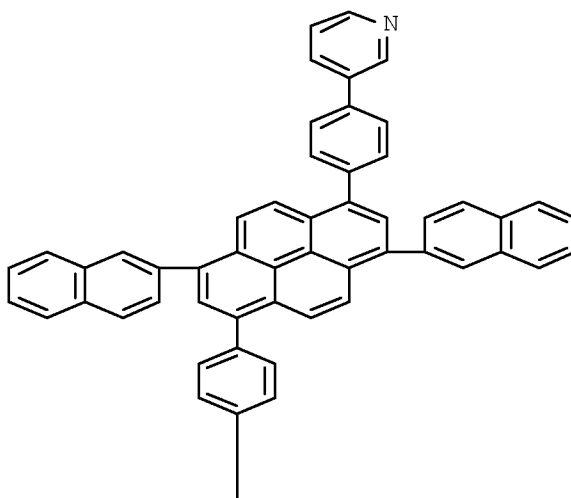
PAGE 2-A

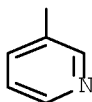


CAS Registry Number
943643-38-7 CAPLUS

Chemical or Trade Name
Pyridine, 3,3'-[(3,8-di-2-naphthalenyl-1,6-pyrenediyl)di-4,1-phenylene]bis-
(CA INDEX NAME)

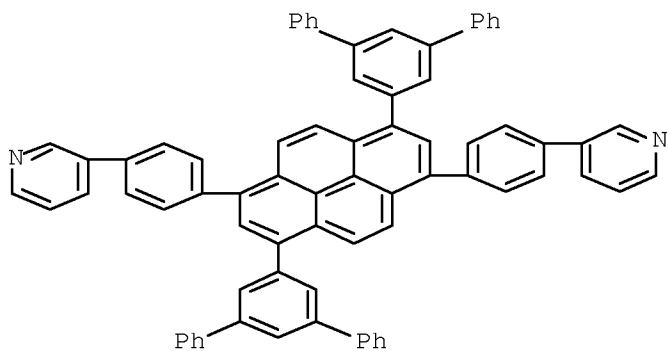
PAGE 1-A





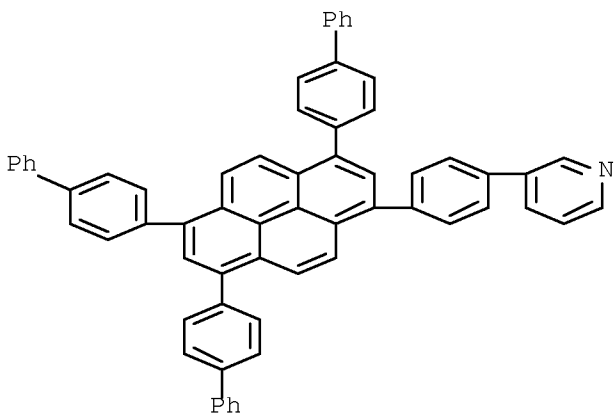
CAS Registry Number
943643-39-8 CAPLUS

Chemical or Trade Name
Pyridine, 3,3'-[[3,8-bis([1,1':3',1''-terphenyl]-5'-yl)-1,6-pyrenediyl]di-4,1-phenylene]bis- (CA INDEX NAME)



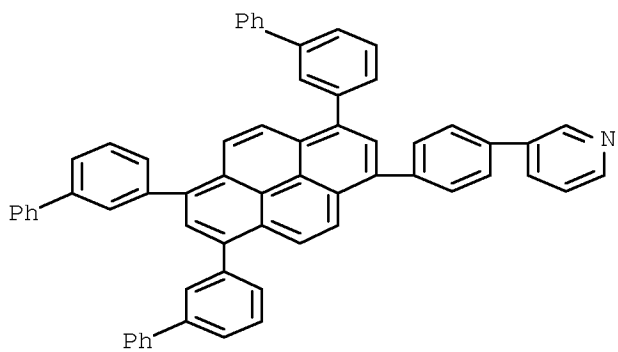
CAS Registry Number
943643-41-2 CAPLUS

Chemical or Trade Name
Pyridine, 3-[4-[3,6,8-tris([1,1'-biphenyl]-4-yl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



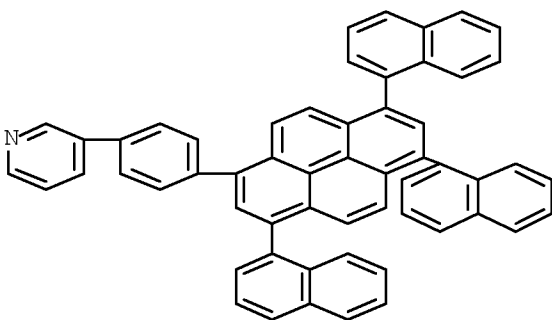
CAS Registry Number
943643-42-3 CAPLUS

Chemical or Trade Name
Pyridine, 3-[4-[3,6,8-tris([1,1'-biphenyl]-3-yl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



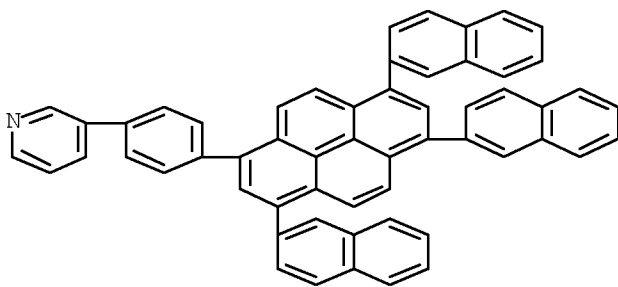
CAS Registry Number
943643-43-4 CAPLUS

Chemical or Trade Name
Pyridine, 3-[4-(3,6,8-tri-1-naphthalenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



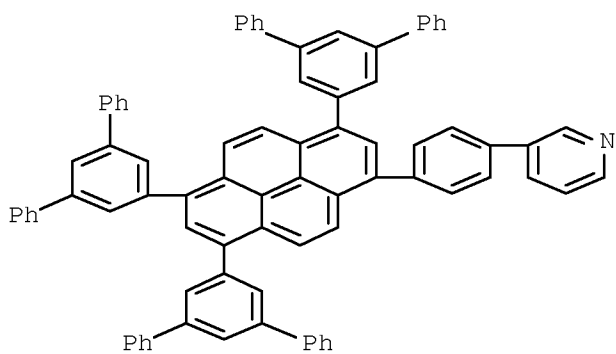
CAS Registry Number
943643-44-5 CAPLUS

Chemical or Trade Name
Pyridine, 3-[4-(3,6,8-tri-2-naphthalenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



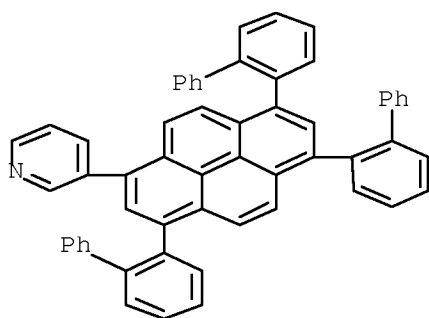
CAS Registry Number
943643-45-6 CAPLUS

Chemical or Trade Name
Pyridine, 3-[4-[3,6,8-tris([1,1':3',1''-terphenyl]-5'-yl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



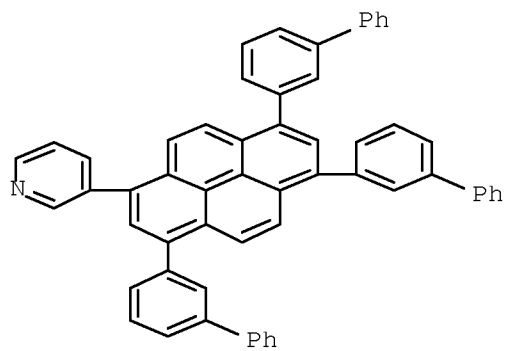
CAS Registry Number
943643-50-3 CAPLUS

Chemical or Trade Name
Pyridine, 3-[3,6,8-tris([1,1'-biphenyl]-2-yl)-1-pyrenyl]- (CA INDEX NAME)



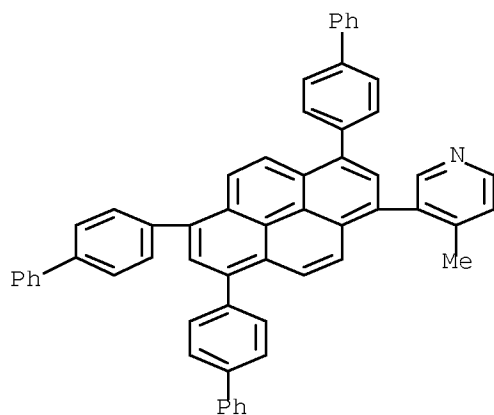
CAS Registry Number
943643-51-4 CAPLUS

Chemical or Trade Name
Pyridine, 3-[3,6,8-tris([1,1'-biphenyl]-3-yl)-1-pyrenyl]- (CA INDEX NAME)



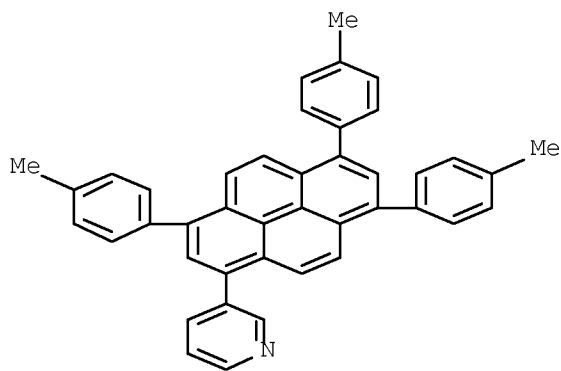
CAS Registry Number
943643-52-5 CAPLUS

Chemical or Trade Name
Pyridine, 4-methyl-3-[3,6,8-tris([1,1'-biphenyl]-4-yl)-1-pyrenyl]- (CA INDEX NAME)



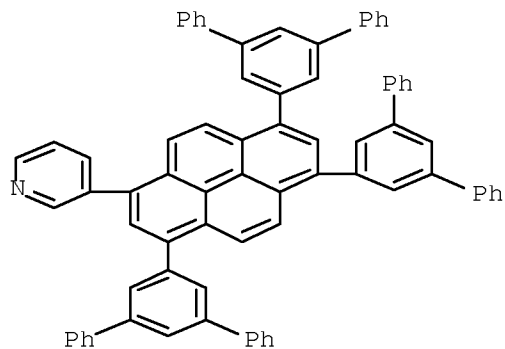
CAS Registry Number
943643-53-6 CAPLUS

Chemical or Trade Name
Pyridine, 3-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number
943643-54-7 CAPLUS

Chemical or Trade Name
Pyridine, 3-[3,6,8-tris([1,1':3',1''-terphenyl]-5'-yl)-1-pyrenyl]- (CA INDEX NAME)



147:130029

Title

Ambipolar field-effect transistor of high photoluminescent material tetraphenylpyrene (TPPy) single crystal

Author/Inventor

Bisri, Satria Zulkarnaen; Takahashi, Tetsuo; Takenobu, Taishi; Yahiro, Masayuki; Adachi, Chihaya; Iwasa, Yoshihiro

Patent Assignee/Corporate Source

Institute for Materials Research, Tohoku University, Sendai, 980-8577, Japan

Source

Japanese Journal of Applied Physics, Part 2: Letters & Express Letters (2007), 46(20-24), L596-L598 CODEN: JAPLD8

Document Type

Journal

Language

English

Abstract

An ambipolar field-effect transistor (FET) based on a 1,3,6,8-tetraphenylpyrene (TPPy) single crystal, a highly photoluminescent material, has been successfully fabricated. Several kinds of metal electrodes have been employed to investigate the charge injection characteristics into the single-crystal FET. Hole and electron mobilities of 0.34 and $7.7 \times 10^{-2} \text{ cm}^2/(\text{V}\cdot\text{s})$ were achieved using Au and Ca electrodes, resp. The ambipolar characteristic of this device gives a prospect for further development in light-emitting FET operation.

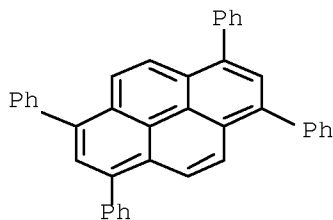
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD
(8 CITINGS)

L9 ANSWER 30 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:727727 CAPLUS [Full-text](#)

Document Number

147:128639

Title

Light-emitting material and light-emitting device

Author/Inventor

Murase, Seiichiro; Nagao, Kazuma; Sugimoto, Kazunori

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 29pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007169581	A	20070705	JP 2006-38930	20060216

Abstract

The invention refers a light-emitting material having a pyrene substituted with R1-10 [R1-10 = H, alkyl, cycloalkyl, heterocycle, alkenyl, cycloalkenyl, alkynyl, alkoxy, alkylthio, arylother, aryl thio ether, halo, phosphine oxide and silyl, and adjacent groups may join to form rings, and at least one of R1-10 is an alkyl or cycloalkyl, and at least one has a direct bond with [A]_n; A = aryl or heteroaryl; n = 1 - 3, is n = 2 or 3, A may be the same or different].

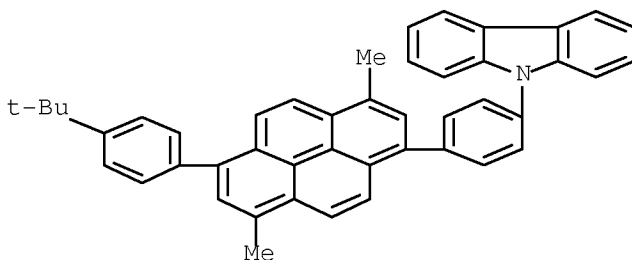
Hit Structure

CAS Registry Number

942941-41-5 CAPLUS

Chemical or Trade Name

9H-Carbazole, 9-[4-[6-[4-(1,1-dimethylethyl)phenyl]-3,8-dimethyl-1-pyrenyl]phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L9 ANSWER 31 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:647454 CAPLUS [Full-text](#)

Document Number

147:82368

Title

Novel imidazoquinazoline derivative, process for preparing the same, and organic electronic device using the same

Author/Inventor

Bae, Jae-Soon; Lee, Dong-Hoon; Lee, Dae-Woong; Jang, Jun-Gi; Jeon, Sang-Young

Patent Assignee/Corporate Source

LG Chem, Ltd., S. Korea

Source

U.S. Pat. Appl. Publ., 156 pp. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070131929	A1	20070614	US 2006-637174	20061212
KR 2007062920	A	20070618	KR 2006-125937	20061212
KR 864364	B1	20081017		
WO 2007069847	A1	20070621	WO 2006-KR5420	20061213
EP 1960402	A1	20080827	EP 2006-824124	20061213
JP 2009516652	T	20090423	JP 2008-539943	20061213
CN 101291935	A	20081022	CN 2006-80039399	20080422

Abstract

The present invention relates to a novel imidazoquinazoline derivative, a process for preparing the imidazoquinazoline derivative, and an organic electronic device using the imidazoquinazoline derivative as hole injecting, hole transporting, electron injecting, electron transporting, or a light emitting material, where the organic electronic device includes an organic light emitting device, and the device according to the present invention exhibits excellent characteristics in efficiency, operating voltage, and stability.

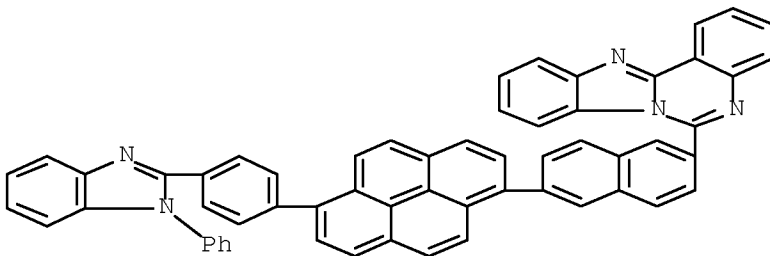
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CAS Registry Number

940965-92-4 CAPLUS

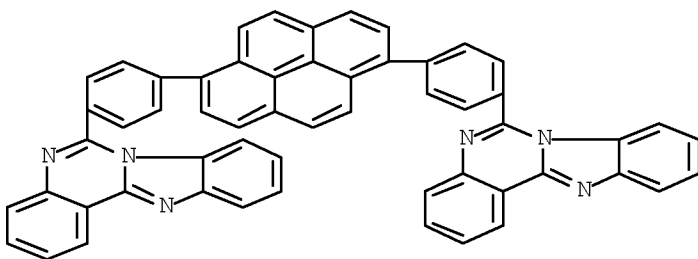
Chemical or Trade Name

Benzimidazo[1,2-c]quinazoline, 6-[6-[6-[4-(1-phenyl-1H-benzimidazol-2-yl)phenyl]-1-pyrenyl]-2-naphthalenyl]- (CA INDEX NAME)



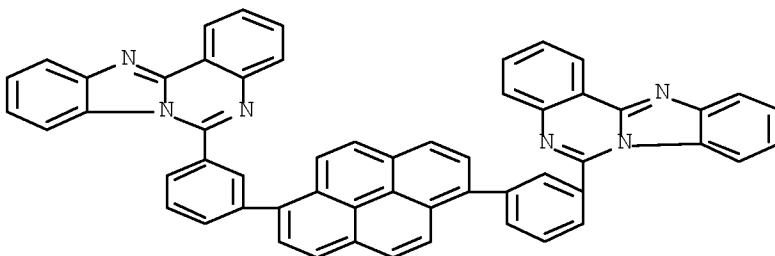
CAS Registry Number
940967-02-2 CAPLUS

Chemical or Trade Name
Benzimidazo[1,2-c]quinazoline, 6,6'-(1,6-pyrenediyl)di-4,1-phenylenebis-
(CA INDEX NAME)



CAS Registry Number
940967-03-3 CAPLUS

Chemical or Trade Name
Benzimidazo[1,2-c]quinazoline, 6,6'-(1,6-pyrenediyl)di-3,1-phenylenebis-
(CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

L9 ANSWER 32 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:585352 CAPLUS [Full-text](#)

Document Number
147:41936

Title
Luminescent material containing pyrene compound and light-emitting device employing it

Author/Inventor
Ogawa, Takashi; Tominaga, Takeshi; Murase, Seichiro

Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
Jpn. Kokai Tokkyo Koho, 23pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007131723	A	20070531	JP 2005-325760	20051110

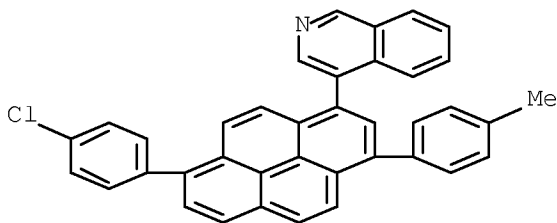
Abstract

The invention relates to a luminescent material and a light-emitting device employing it. The above material consists of the pyrene compound represented by the general formula I-II, where R1-R15 is selected from the fused rings formed between adjacency substituents, such as hydrogen, the alkyl group, the cycloalkyl group, and the heterocycle group, A is directly bonded to at least one of R1-R15; Y1-Y5 is selected from nitrogen or carbon atom; when one of Y1-Y5 is nitrogen atom, the substitute of R11-R15 on the nitrogen atom does not exist.

Hit Structure

CAS Registry Number
936719-68-5 CAPLUS

Chemical or Trade Name
Isoquinoline, 4-[8-(4-chlorophenyl)-3-(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



L9 ANSWER 33 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2007:585349 CAPLUS [Full-text](#)

Document Number
146:530861

Title
Luminescent material and light-emitting device employing it

Author/Inventor
Ogawa, Takashi; Murase, Seichiro; Nagao, Kazuma

Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
Jpn. Kokai Tokkyo Koho, 22pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007131722	A	20070531	JP 2005-325759	20051110

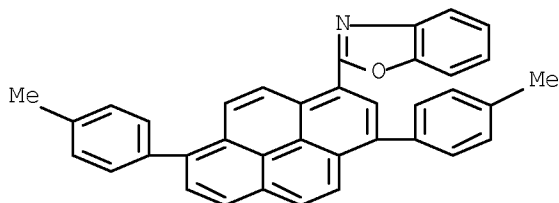
Abstract

The invention relates to a luminescent material and light -emitting device employing it. The above material consists of anthracene compound represented by I, where A is the direct bond, the arylene group, etc. and R1-R19 are H, the alkyl group, etc., at least one of R11-R18 is the alkyl group, the aryl group, etc., at least one of R11-R19 and R1-R10 is used for the connection with A.

Hit Structure

CAS Registry Number
908011-69-8 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

_L9 ANSWER 34 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007:352951 CAPLUS [Full-text](#)

Document Number

146:390110

Title

Blue light-emitting materials and devices using pyrene compounds

Author/Inventor

Sugimoto, Kazunori; Murase, Seiichiro; Nagao, Kazuma

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 27pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007077185	A	20070329	JP 2005-263424	20050912

Abstract

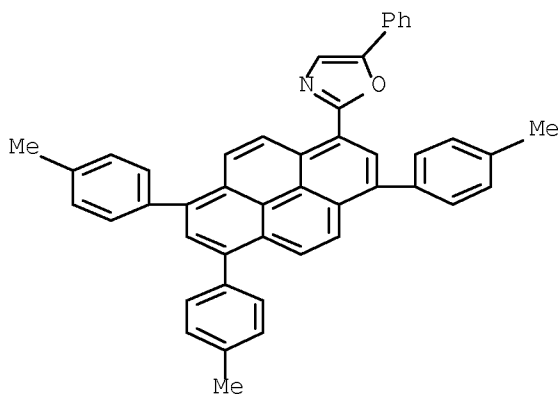
The materials contain pyrene compds. I (R1-R14 = H, alkyl, cycloalkyl, heterocyclic group, alkenyl, cycloalkenyl, alkynyl, alkoxy, alkylthio, arylother, arylthioether, aryl, heteroaryl, halo, CN, carbonyl, CO₂H, oxycarbonyl, carbamoyl, amino, phosphine oxide; R1-R14 may form condensed ring with their adjacent groups; ≥ 1 of R1-R10 and ≥ 1 of R11-R14 = single bond; X1 = O, S, NR15; Y1-Y4 = N, C; ≥ 1 of Y1-Y4 = N and ≥ 1 of Y1-Y4 = C; R15 = H, alkyl, cycloalkyl, heterocyclic group, alkenyl, cycloalkenyl, alkynyl, aryl, heteroaryl, CN, carbonyl, CO₂H, oxycarbonyl, carbamoyl). The devices having light -emitting layers between anodes and cathodes and emitting light by elec. energy contain the materials. The devices show high luminescent efficiency.

Hit Structure

CAS Registry Number
908011-57-4 CAPLUS

Chemical or Trade Name

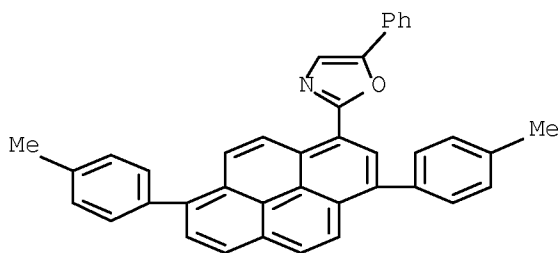
Oxazole, 5-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number
908011-61-0 CAPLUS

Chemical or Trade Name

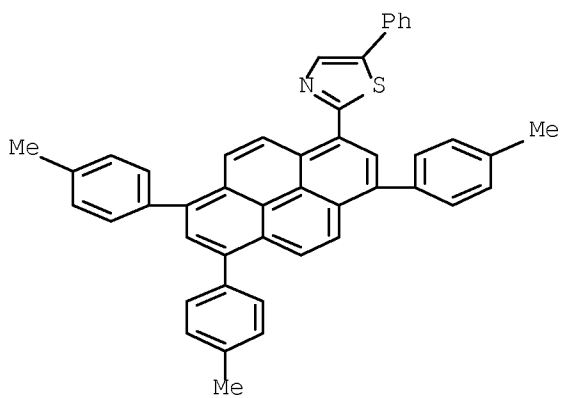
Oxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-phenyl- (CA INDEX NAME)



CAS Registry Number
908011-62-1 CAPLUS

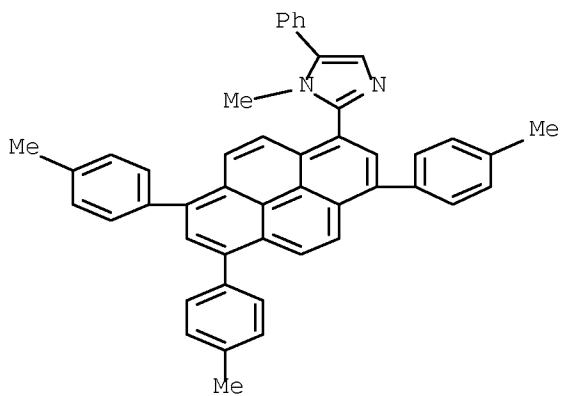
Chemical or Trade Name

Thiazole, 5-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



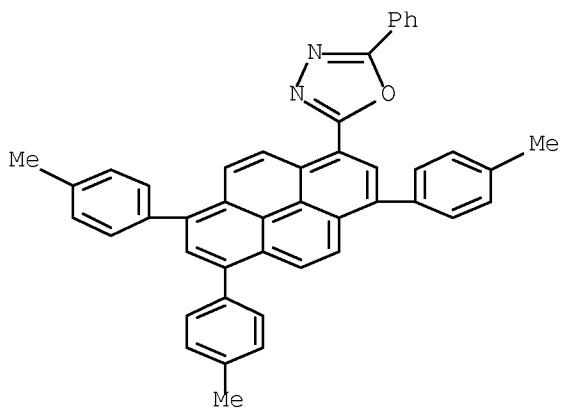
CAS Registry Number
908011-63-2 CAPLUS

Chemical or Trade Name
1H-Imidazole, 1-methyl-5-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]-
(CA INDEX NAME)



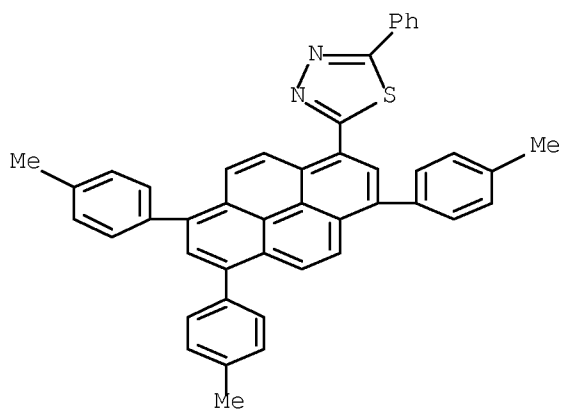
CAS Registry Number
908011-64-3 CAPLUS

Chemical or Trade Name
1,3,4-Oxadiazole, 2-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA
INDEX NAME)



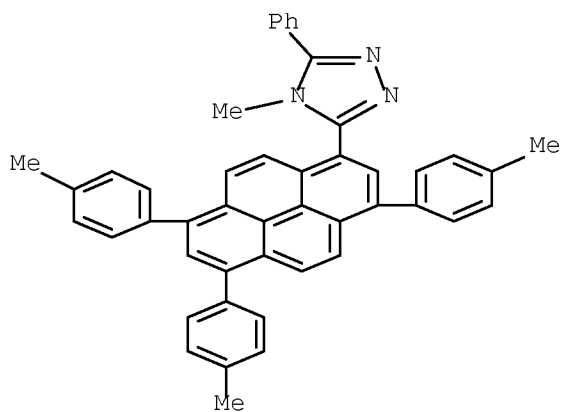
CAS Registry Number
908011-65-4 CAPLUS

Chemical or Trade Name
1,3,4-Thiadiazole, 2-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA
INDEX NAME)



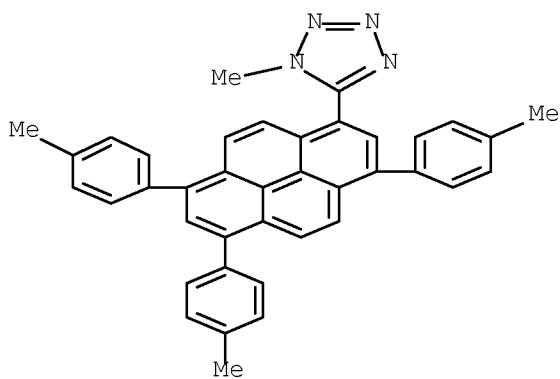
CAS Registry Number
908011-66-5 CAPLUS

Chemical or Trade Name
4H-1,2,4-Triazole, 4-methyl-3-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-
pyrenyl]- (CA INDEX NAME)



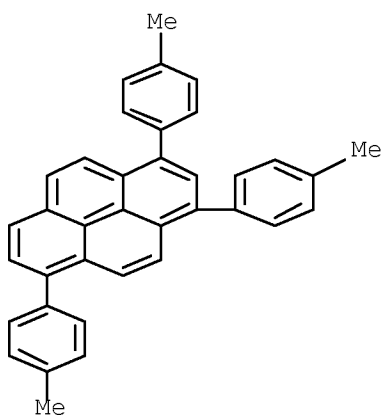
CAS Registry Number
930088-30-5 CAPLUS

Chemical or Trade Name
1H-Tetrazole, 1-methyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA
INDEX NAME)



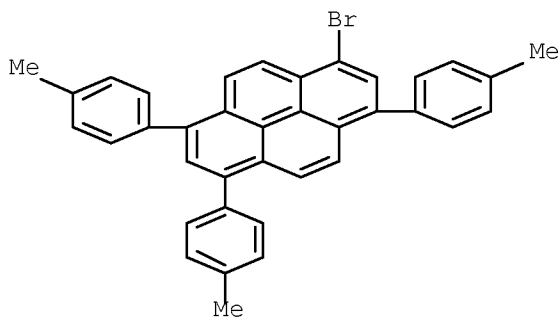
CAS Registry Number
908011-84-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-tris(4-methylphenyl)- (CA INDEX NAME)



CAS Registry Number
930088-31-6 CAPLUS

Chemical or Trade Name
Pyrene, 1-bromo-3,6,8-tris(4-methylphenyl)- (CA INDEX NAME)



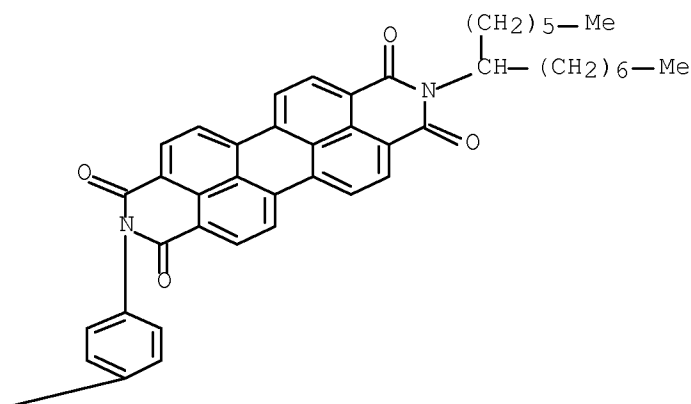
Author/Inventor
 Bullock, Joseph E.; Kelley, Richard f.; Wasielewski, Michael R.
 Patent Assignee/Corporate Source
 Department of Chemistry and International Institute for Nanotechnology, Northwestern University, Evanston, IL, 60208-3113, USA
 Source
 PMSE Preprints (2007), 96, 805-806 CODEN: PPMRA9; ISSN: 1550-6703
 Document Type
 Journal; (computer optical disk)
 Language
 English

Abstract
 Perylene-3,4,9,10-bis(dicarboximide) (PDI) derivs. have attracted significant interest as active materials for light harvesting, photovoltaics, and studies of basic photoinduced charge and energy transfer processes. Recently, covalent PDI-based electron donor-acceptor systems that self-assemble to form larger structures for energy and electron transport were demonstrated. The present study describes photoinduced electron transfer in a system in which four PDI electron acceptors are covalently attached to a central pyrene (Py) electron donor at its 1,3,6, and 8-positions (Py-PDI4). The terminal imide of each PDI is functionalized with a long branched aliphatic hydrocarbon tail to ensure good solubility. Coplanarity allows the Py-PDI4 building blocks to self-assemble into structures in which the mols. are arranged in a cofacial configuration (H-type aggregate). Photoexcitation of (Py-PDI4) results in rapid electron transfer from Py to the lowest excited singlet state of an adjacent PDI. The transient spectra show evidence of charge sharing amongst the stacked PDI mols. in (Py-PDI4).

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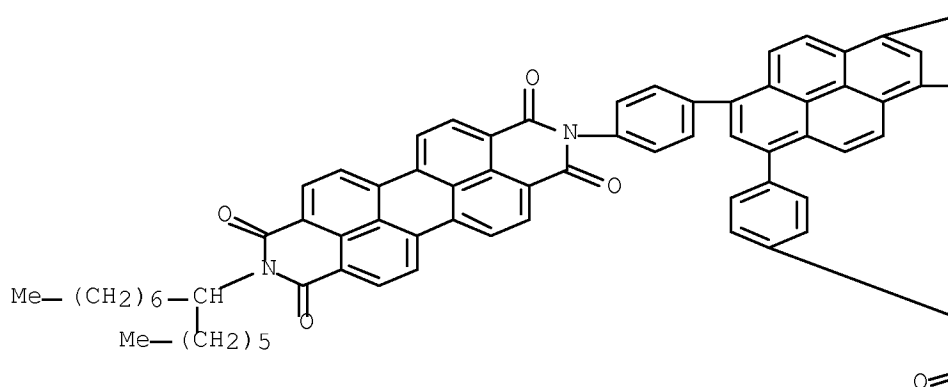
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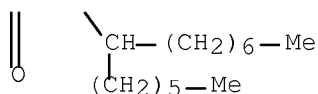
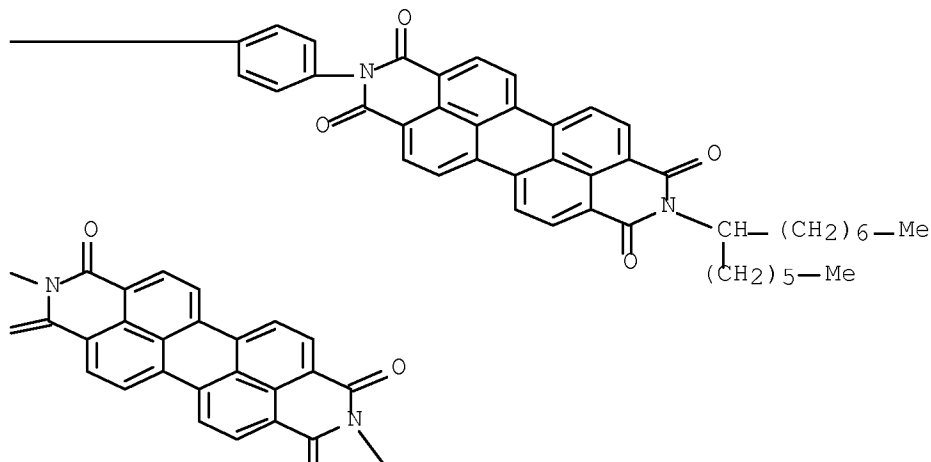
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 2,2',2'',2'''-(1,3,6,8-pyrenetetrayltetra-4,1-phenylene)tetrakis[9-(1-
 hexyloctyl)- (CA INDEX NAME)



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PAGE 2-A





OS.CITING REF COUNI: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)

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Accession Number
2007:284225 CAPLUS [Full-text](#)

Document Number
146:347117

Title
Light-emitting device material and light-emitting device

Author/Inventor
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Patent Assignee/Corporate Source
Toray Industries, Inc., Japan

Source
PCT Int. Appl., 112pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

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WO 2007029798	A1	20070315	WO 2006-JP317810	20060908
EP 1942171	A1	20080709	EP 2006-797666	20060908
CN 101258221	A	20080903	CN 2006-80032965	20080307
US 20090096356	A1	20090416	US 2008-991461	20080326
KR 2008055891	A	20080619	KR 2008-708341	20080407

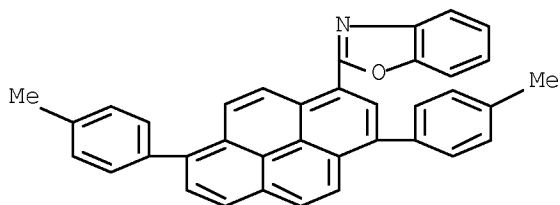
Abstract

Disclosed is a **light-emitting device material** containing a pyrene compound represented by I [R1-R18 = H, alkyl, cycloalkyl, heterocyclic, alkenyl, cycloalkenyl, alkynyl, alkoxy, alkylthio, aryl ether, aryl thioether, aryl, heteroaryl, halogen, carbonyl, carboxyl, oxycarbonyl, carbamoyl, amine, phosphine oxide, and a silyl; adjacent substituents among R1-R18 may combine together to form a ring; n = integer 1-3; X = -O-, -S- and -NR19- [R19 = H, alkyl, cycloalkyl, heterocyclic, alkenyl, cycloalkenyl, alkynyl, aryl, heteroaryl, and amino; R19 may form a ring together with R11 or R18]; and Y = single bond, arylene and heteroarylene; and n of R1-R10 and one of R11-R19 are used for linkage with Y]. This **light-emitting device material** enables to provide a **light-emitting device** having high efficiency and excellent durability. Also disclosed is a **light-emitting device** using such a **light-emitting device material**.

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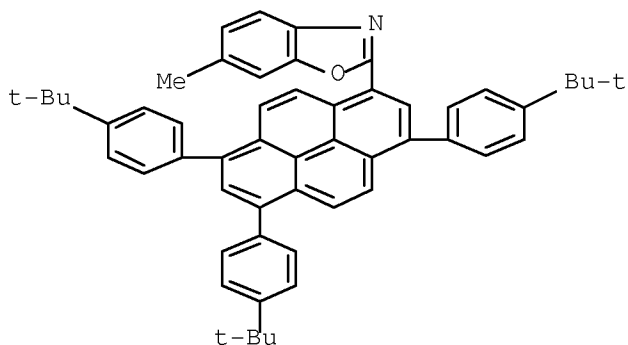
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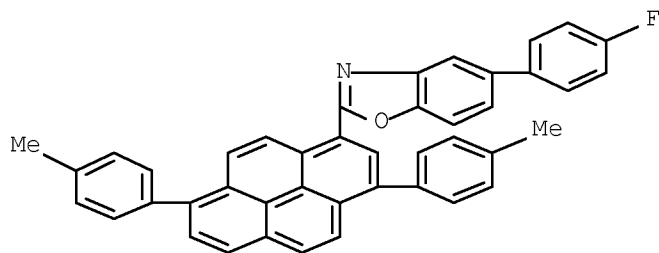
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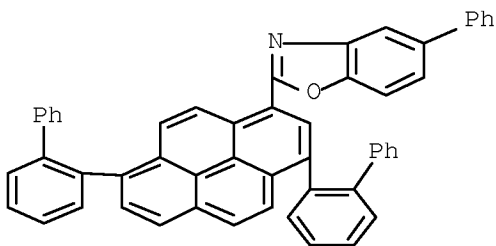
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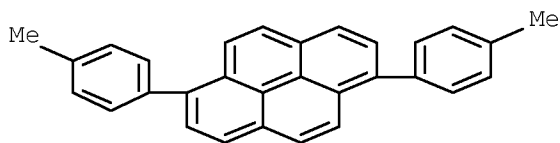
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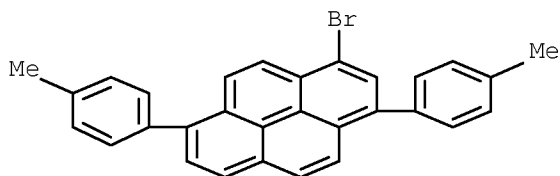
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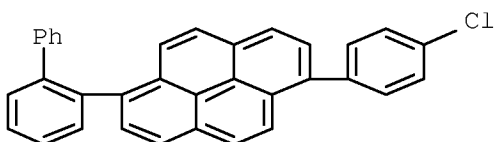
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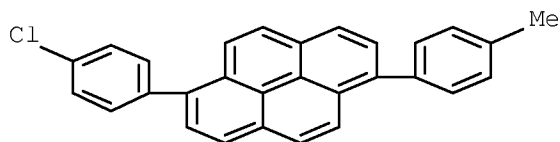
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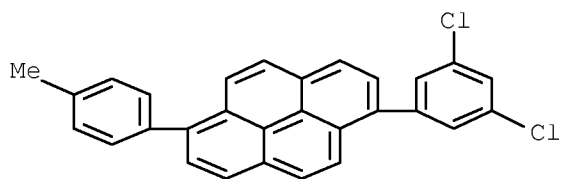
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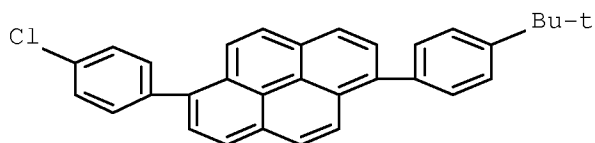
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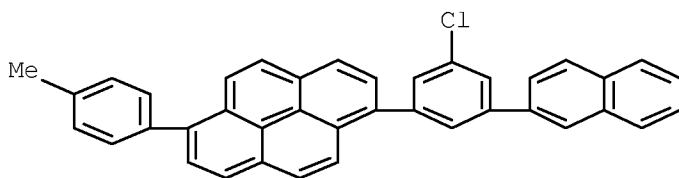
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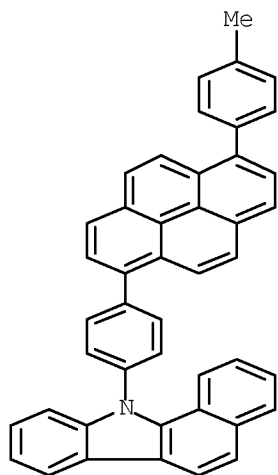
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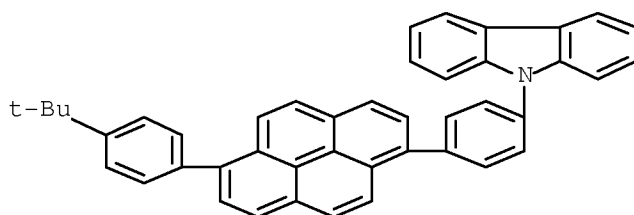
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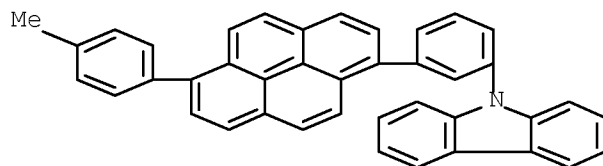
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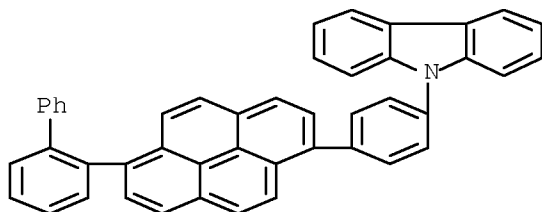
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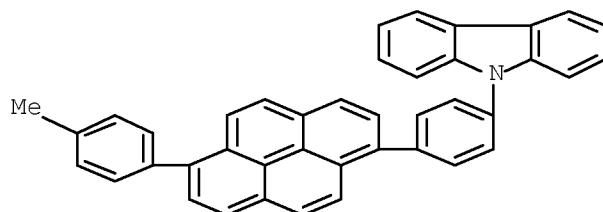
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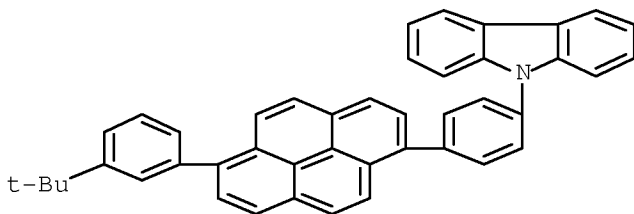
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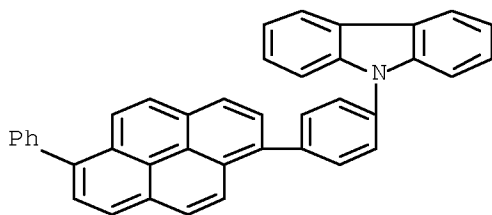
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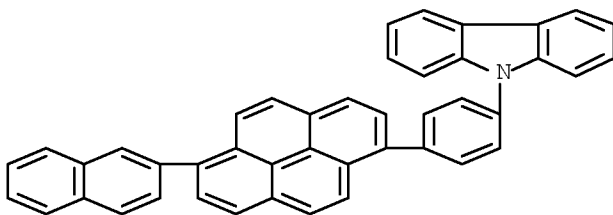
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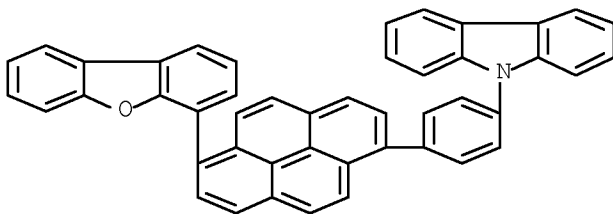
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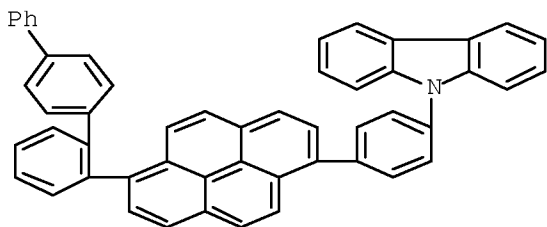
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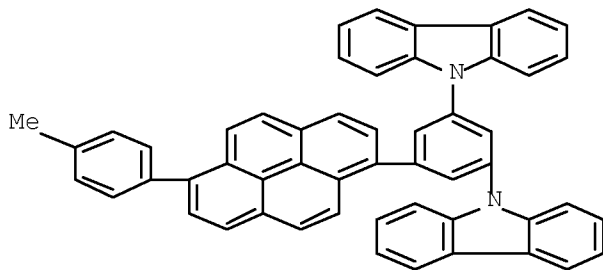
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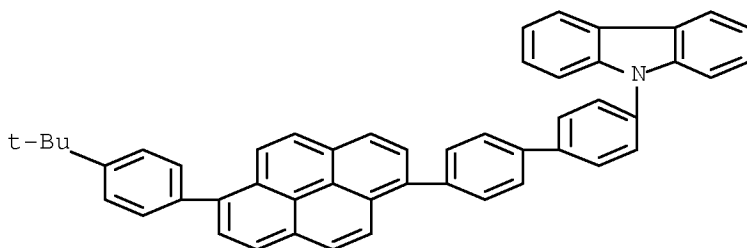
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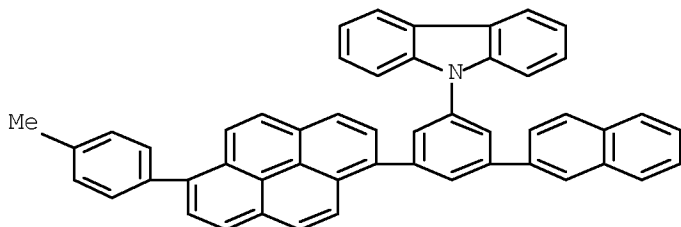
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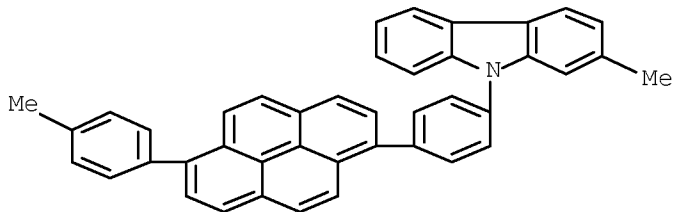
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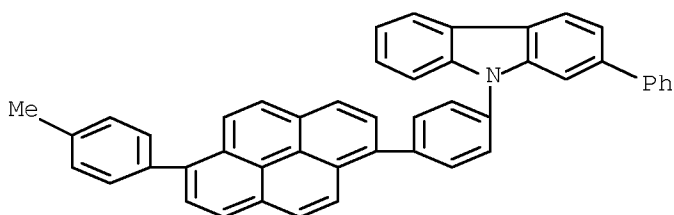
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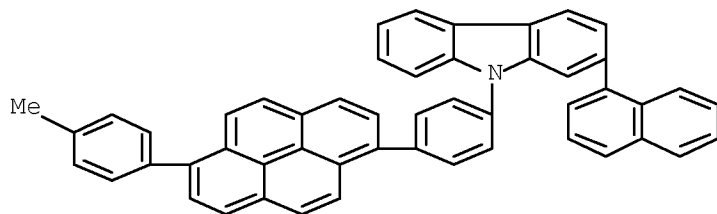
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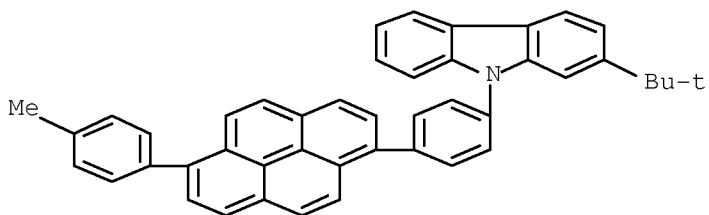
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Chemical or Trade Name
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CAS Registry Number
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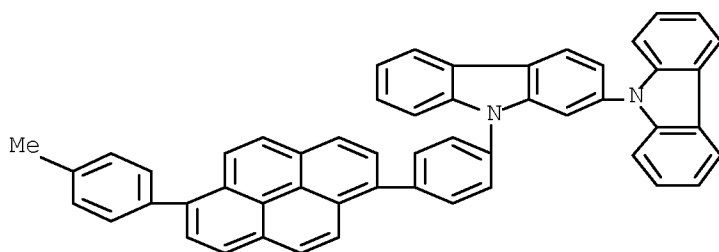
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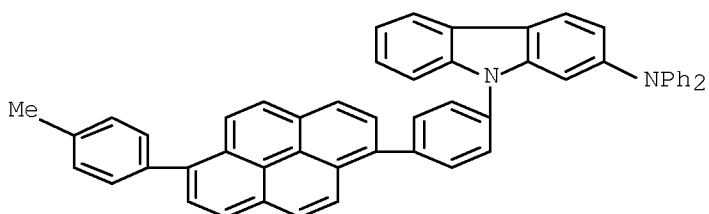
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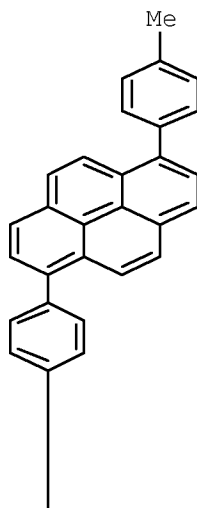
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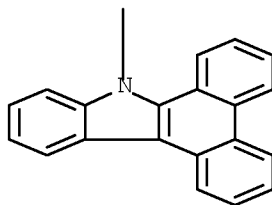
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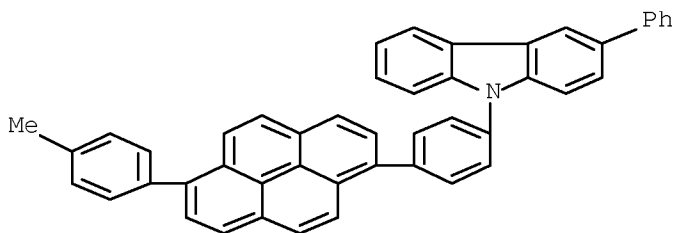
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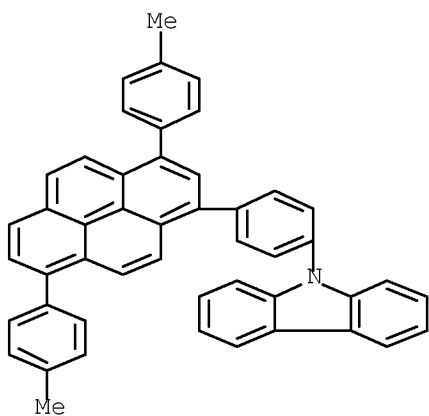
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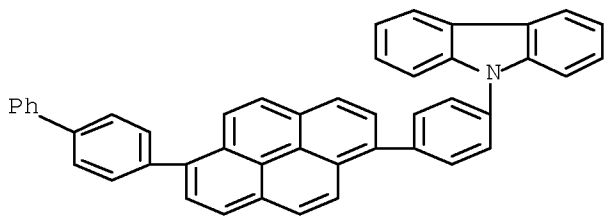
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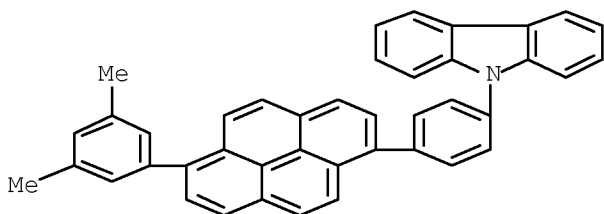
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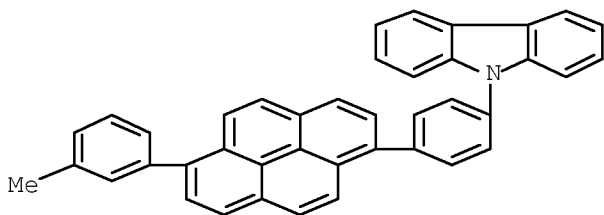
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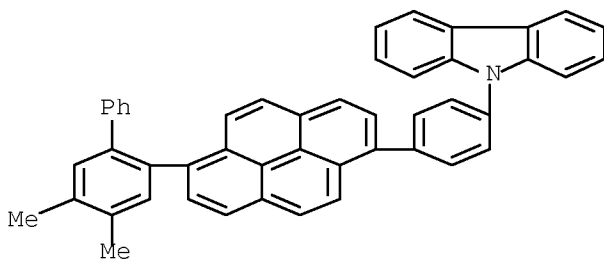
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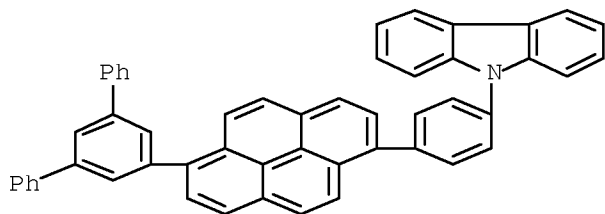
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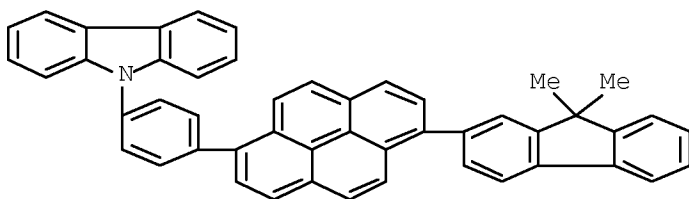
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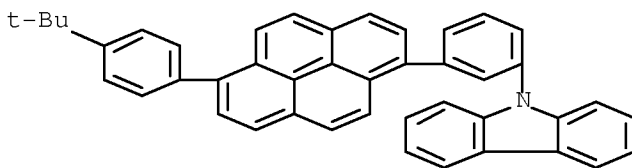
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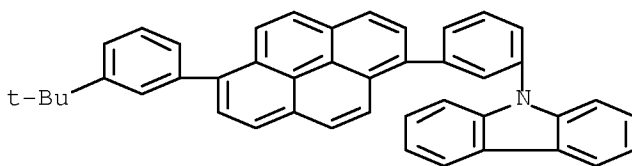
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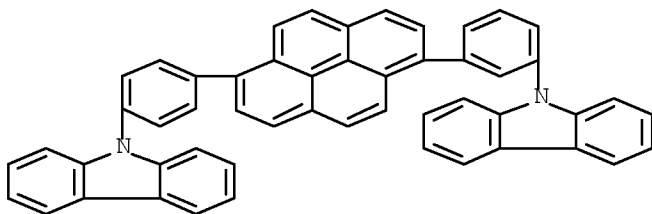
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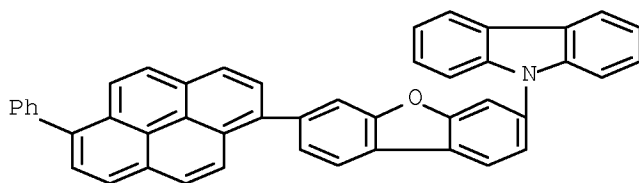
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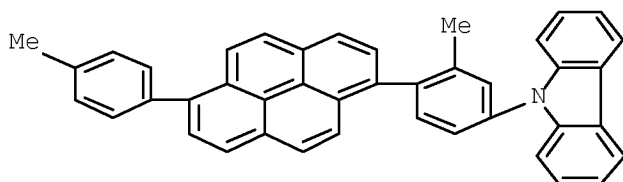
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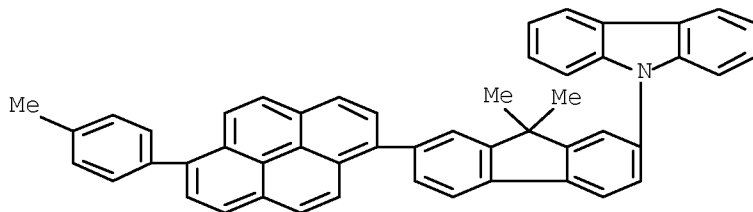
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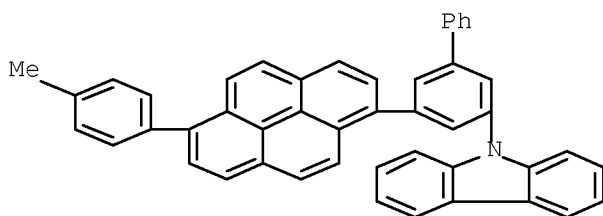
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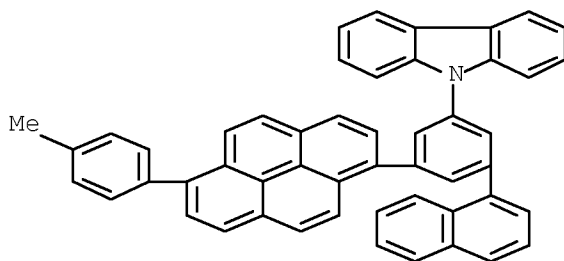
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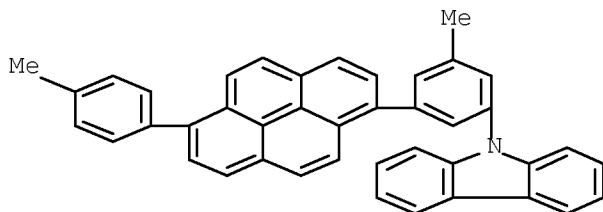
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Chemical or Trade Name
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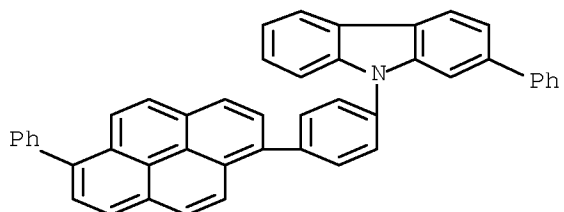
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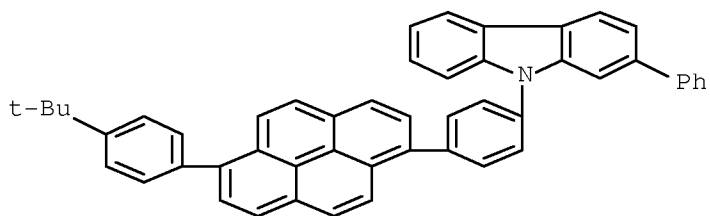
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929100-13-0 CAPLUS

Chemical or Trade Name
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CAS Registry Number
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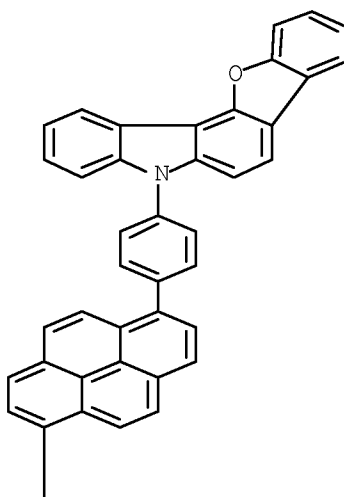
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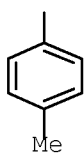
CAS Registry Number
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Chemical or Trade Name
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(CA INDEX NAME)

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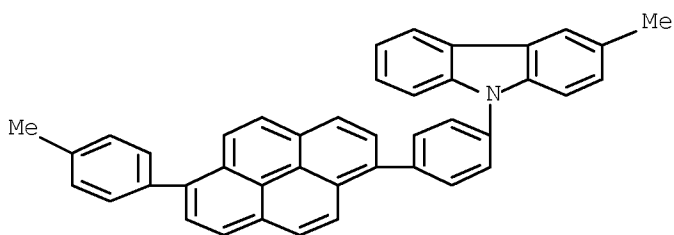


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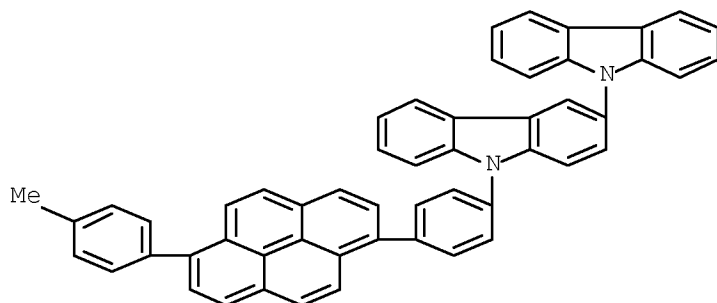
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Chemical or Trade Name
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INDEX NAME)



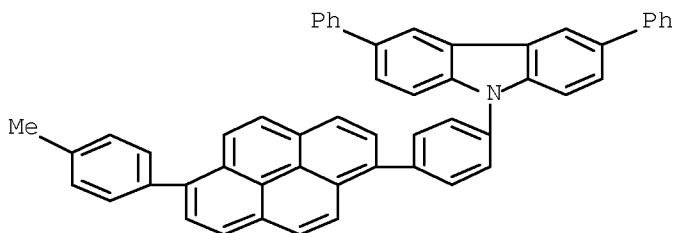
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Chemical or Trade Name
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INDEX NAME)



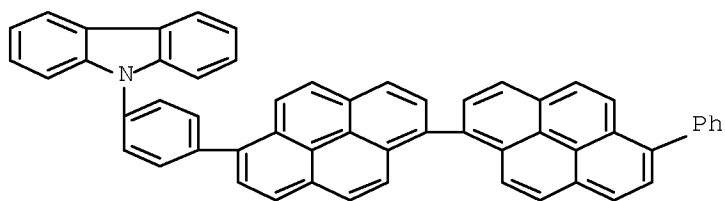
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Chemical or Trade Name
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(CA INDEX NAME)



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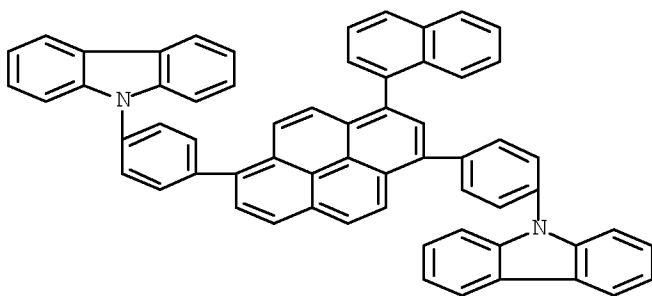
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CAS Registry Number
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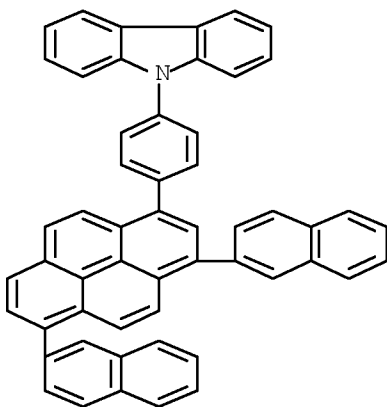
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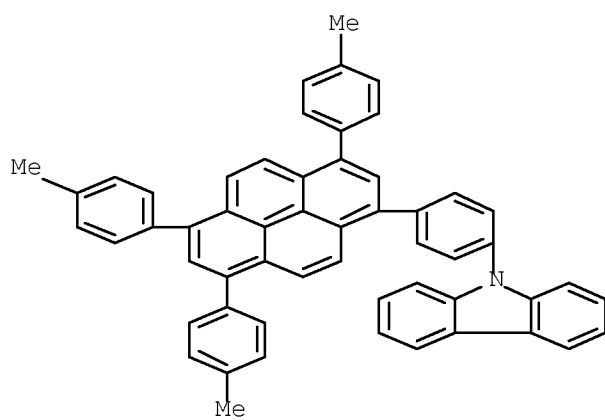
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Chemical or Trade Name
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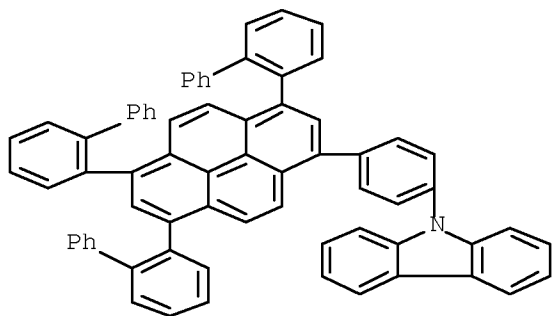
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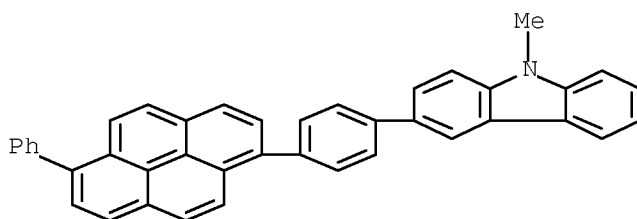
CAS Registry Number
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Chemical or Trade Name
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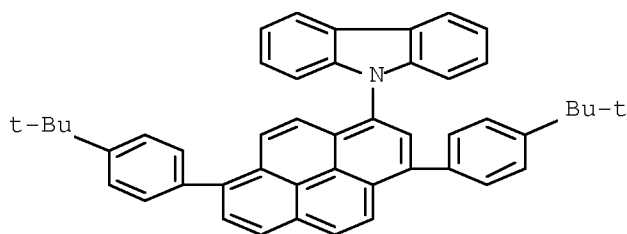
CAS Registry Number
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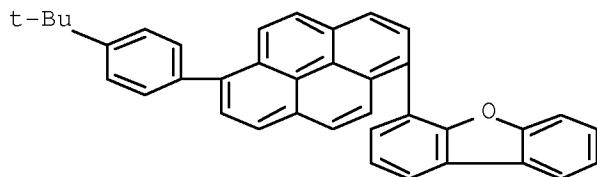
CAS Registry Number
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Chemical or Trade Name
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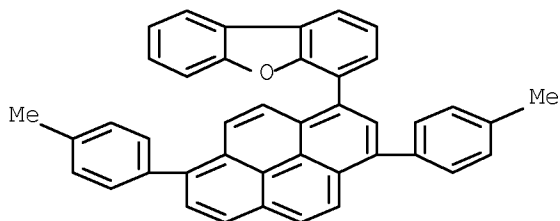
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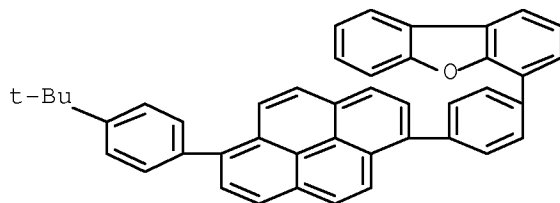
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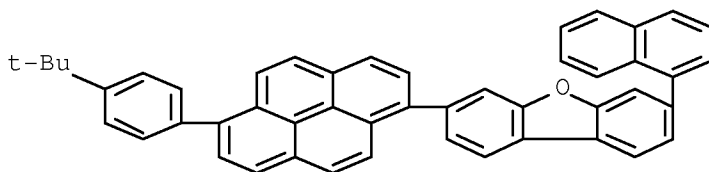
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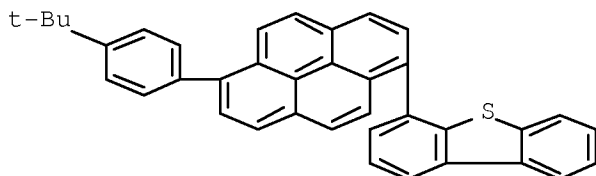
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CAS Registry Number
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Chemical or Trade Name
Dibenzothiophene, 4-[6-[4-(1,1-dimethylethyl)phenyl]-1-pyrenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

146:389986

Title

Charge-carrier injection characteristics at organic/organic heterojunction interfaces in organic light-emitting diodes

Author/Inventor

Matsushima, Toshinori; Goushi, Kenichi; Adachi, Chihaya

Patent Assignee/Corporate Source

Core Research for Evolutional Science and Technology Program (CREST), Japan Science and Technology Agency (JST), 1-32-12 Higashi, Shibuya, Tokyo, 150-0011, Japan

Source

Chemical Physics Letters (2007), 435(4-6), 327-330 CODEN: CHPLBC; ISSN: 0009-2614

Document Type

Journal

Language

English

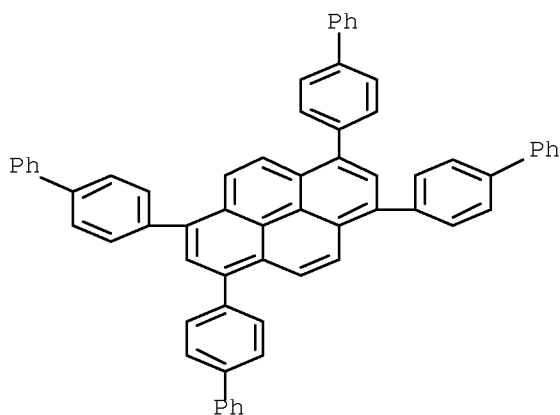
Abstract

Organic light-emitting diodes (OLEDs) having various guest mols. doped in an organic host matrix layer are fabricated [the OLED structure is anode/hole-transporting layer (HTL)/guest-host emitting layer/hole-blocking layer/electron-transporting layer/cathode], and the dependence of c.d.-voltage (J-V) characteristics of the OLEDs on HOMO levels of guest mols. are investigated. From the J-V characteristics of these OLEDs, we find two important results: (1) J-V characteristics of the OLEDs are controlled by the direct hole injection from the neighboring HTL to guest mols., and (2) HOMO level alignment between the HTL and guest mols. provides efficient hole injection at this interface.

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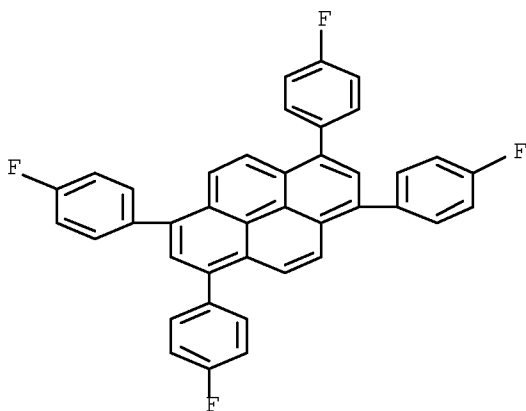
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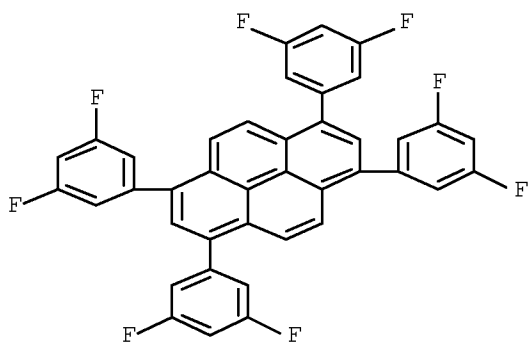
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Chemical or Trade Name
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Chemical or Trade Name
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OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD
(9 CITINGS)

Accession Number
2007:33414 CAPLUS [Full-text](#)

Document Number
146:121699

Title
Process for preparation of pyrene derivatives for use in organic electroluminescence devices

Author/Inventor
Ito, Mitsunori; Kubota, Mineyuki

Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 62pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007004364	A1	20070111	WO 2006-JP310194	20060523
JP 2007015961	A	20070125	JP 2005-197765	20050706
EP 1905754	A1	20080402	EP 2006-746728	20060523
US 20080124571	A1	20080529	US 2007-926813	20071029
US 7585574	B2	20090908		
CN 101213161	A	20080702	CN 2006-80024361	20080103
KR 2008027332	A	20080326	KR 2008-700282	20080104
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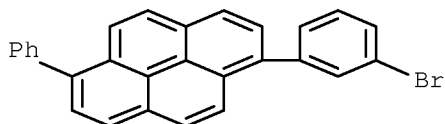
Abstract

This invention pertains to a method for producing pyrene derivs. via coupling reaction, for the use in organic electroluminescence devices comprising a neg. electrode and a pos. electrode and, interposed there between, one or two or more organic thin film layers including at least a light emitting layer, wherein at least one of the organic thin film layers contains the pyrene derivative alone or as a component of mixture. For example, the compound I was prepared in a three-step synthesis starting from pyrene-1-boronic acid and 3-bromo-1-iodobenzene in good yield. Thus, there is provided an organic electroluminescence device of high luminous efficiency capable of prolonged blue light emission.

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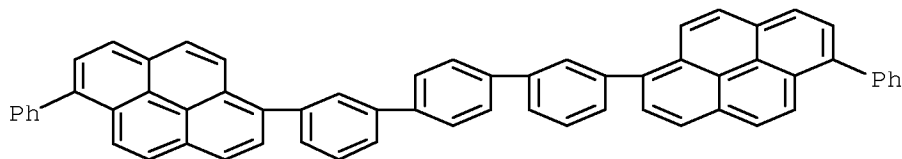
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Chemical or Trade Name
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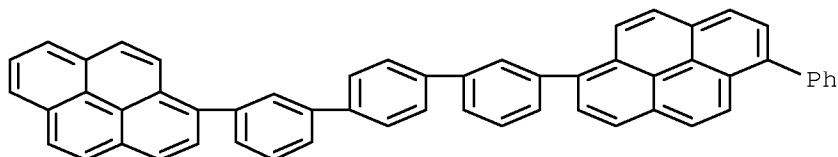
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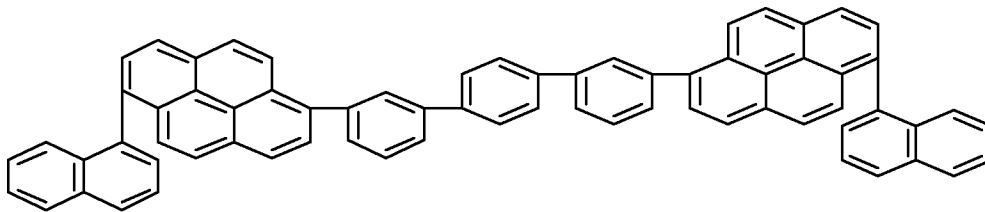
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Chemical or Trade Name
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CAS Registry Number
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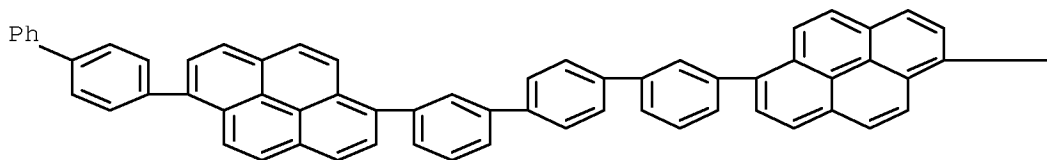
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 (CA INDEX NAME)]



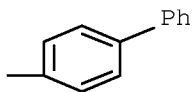
CAS Registry Number
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Chemical or Trade Name
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 (CA INDEX NAME)]

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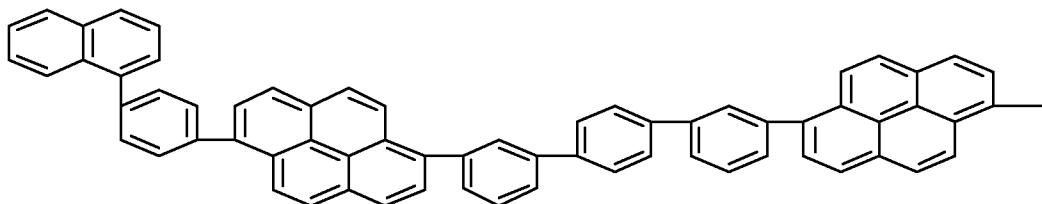
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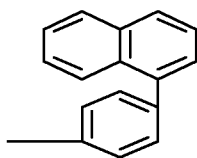
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Chemical or Trade Name
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 (CA INDEX NAME)]

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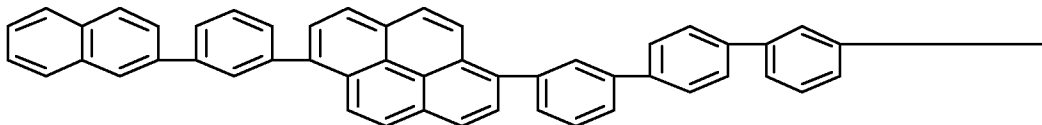
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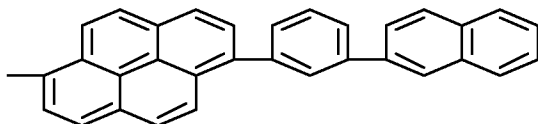
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Chemical or Trade Name
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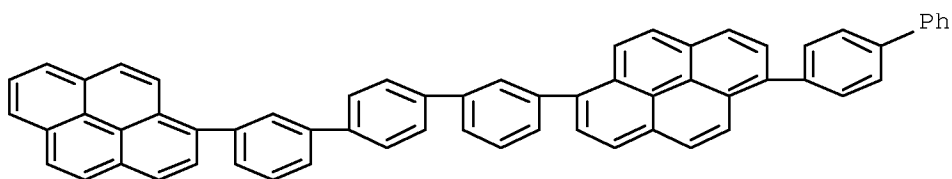


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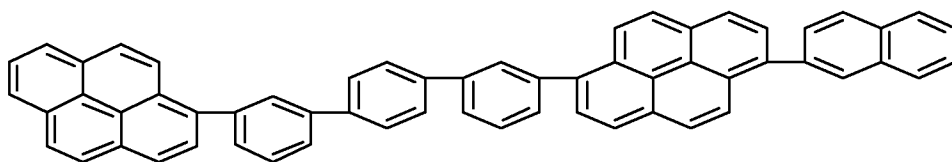
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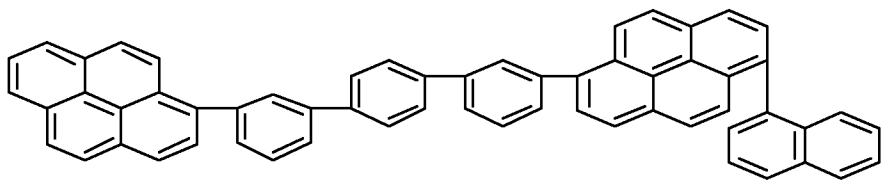
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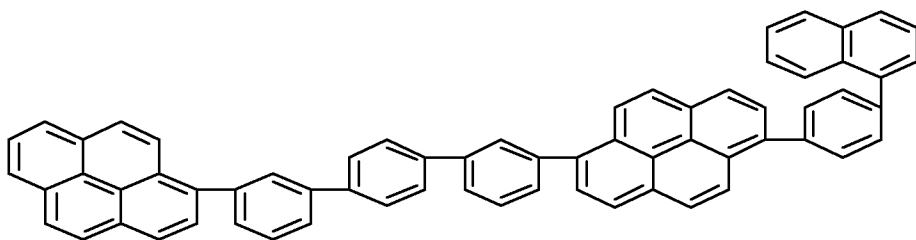
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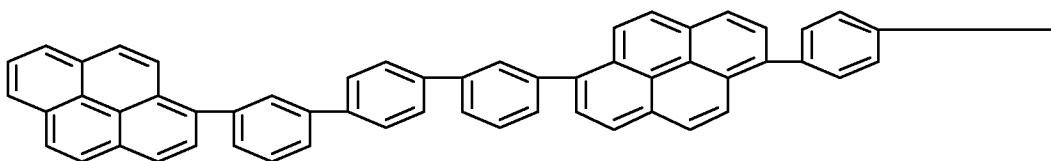
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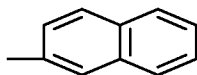
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Chemical or Trade Name
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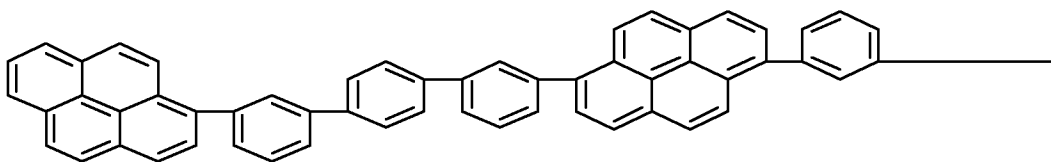
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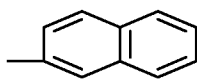


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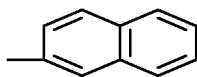
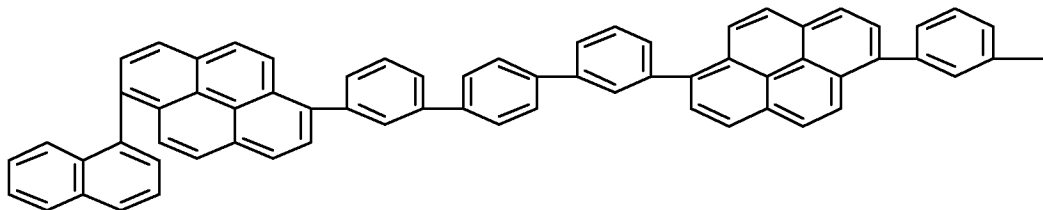
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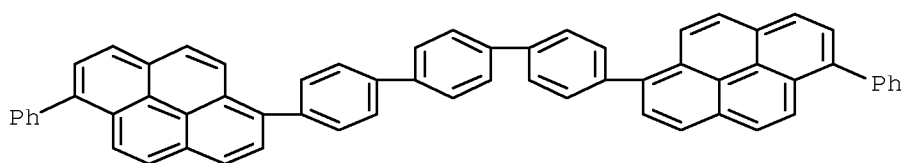
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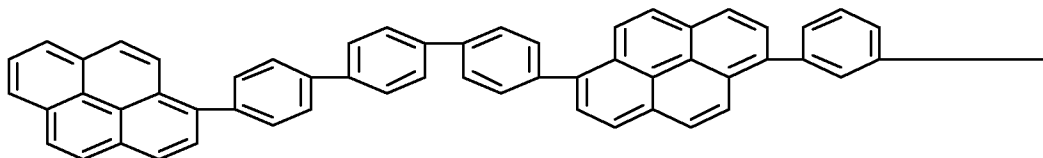
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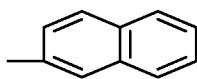
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CAS Registry Number
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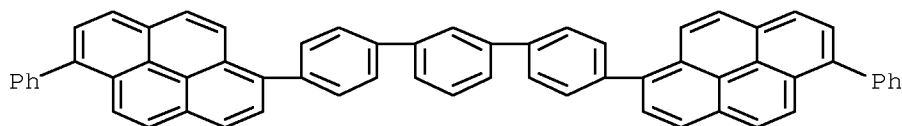
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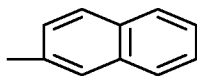
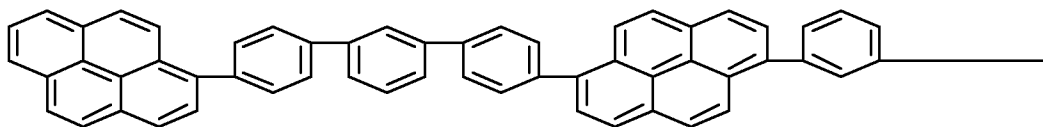
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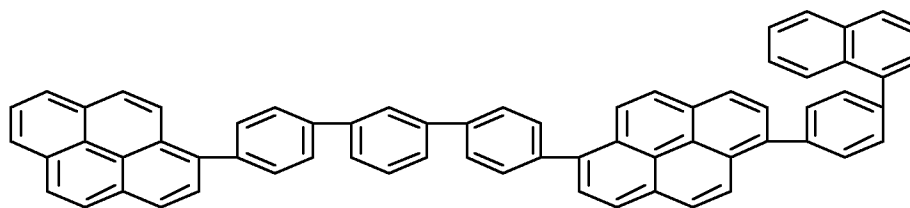
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Chemical or Trade Name
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CAS Registry Number
918654-85-0 CAPLUS

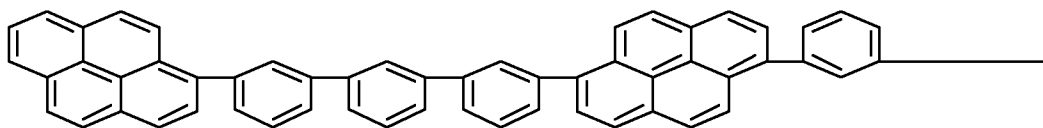
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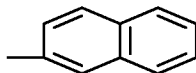
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Chemical or Trade Name
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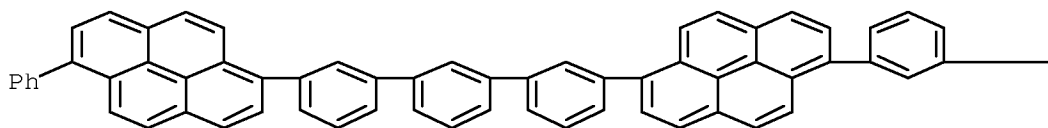
PAGE 1-B



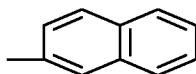
CAS Registry Number
918654-88-3 CAPLUS

Chemical or Trade Name
Pyrene, 1-[3-(2-naphthalenyl)phenyl]-6-[3'-(6-phenyl-1-pyrenyl)(1,1':3',1''-terphenyl)-3-yl]- (CA INDEX NAME)

PAGE 1-A

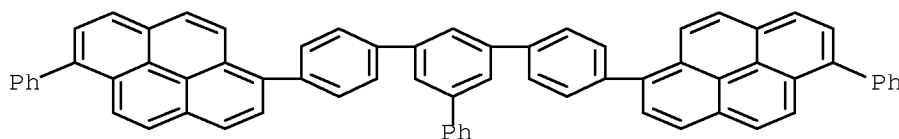


PAGE 1-B



CAS Registry Number
918654-92-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-(5'-(6-phenyl-1-pyrenyl)(1,1':3',1''-terphenyl)-4,4''-diyl)bis[6-phenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

L9 ANSWER 39 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:1353991 CAPLUS [Full-text](#)

Document Number

146:81758

Title

Process for preparation of dibenzothiophene derivatives for organic electroluminescent devices

Author/Inventor

Ito, Mitsunori; Kubota, Mineyuki; Hosokawa, Chishio

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 56pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2006137210	A1	20061228	WO 2006-JP307937	20060414
EP 1894923	A1	20080305	EP 2006-731873	20060414
US 20080166594	A1	20080710	US 2007-924864	20071026
KR 2008031872	A	20080411	KR 2007-729977	20071221
CN 101223156	A	20080716	CN 2006-80022528	20071221
IN 2007CN05945	A	20080627	IN 2007-CN5945	20071224

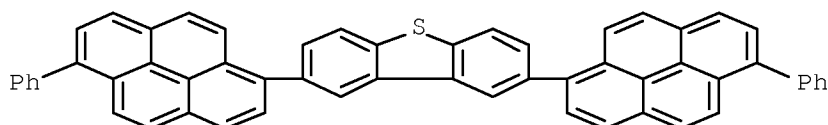
Abstract

This invention pertains to a method for producing dibenzothiophene derivs. Further, there is provided an organic electroluminescent device comprising a neg. electrode and a pos. electrode and, interposed there between, organic thin-film layers of one or more layers including at least a **light** emitting layer, wherein at least one of the organic thin-film layers contains any of the above benzo thiophene derivs. alone or as a component of mixture. Consequently, there are provided an organic electroluminescent device exhibiting high luminous efficiency and realizing blue **light** emission of prolonged life and novel dibenzothiophene derivs. for realization of the same.

Hit Structure

CAS Registry Number
917380-47-3 CAPLUS

Chemical or Trade Name
Dibenzothiophene, 2,8-bis(6-phenyl-1-pyrenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

L9 ANSWER 40 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
20061173494 CAPLUS [Full-text](#)
Document Number
145:498536

Title
Organic electronic devices and boronic acid and boronic acid derivatives used therein
Author/Inventor
Stoessel, Philipp; Breuning, Esther; Buesing, Arne; Parham, Amir; Heil, Holger; Vestweber, Horst
Patent Assignee/Corporate Source
Merck Patent G.m.b.H., Germany
Source
PCT Int. Appl., 159pp. CODEN: PIXXD2
Document Type
Patent
Language
German
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006117052	A1	20061109	WO 2006-EP3150	20060406
EP 1888706	A1	20080220	EP 2006-724095	20060406
JP 2008541417	T	20081120	JP 2008-509318	20060406
US 20090134384	A1	20090528	US 2007-912939	20071029
CN 101171320	A	20080430	CN 2006-80015401	20071105
KR 2008012337	A	20080211	KR 2007-728263	20071203

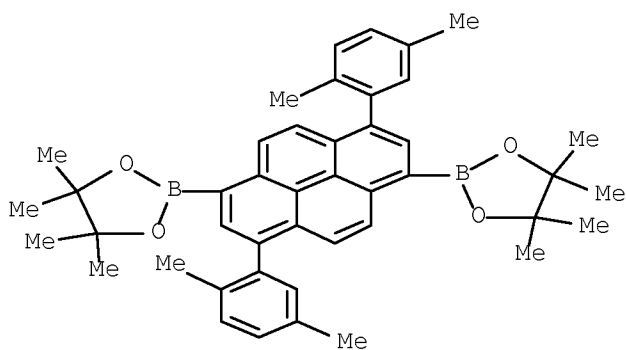
Abstract

Organic electronic devices (e.g., organic or polymer **light**-emitting diodes, organic field-effect transistors, organic integrated circuits, organic thin-film transistors, organic **light**-emitting transistors, organic solar cells, organic field quenching devices, organic **light**-emitting cells, organic photoreceptors, and organic laser diodes) are described which comprise ≥ 1 organic film including ≥ 1 aromatic boronic acid or boronic acid derivative compound. The compds. may serve as fluorescent or phosphorescent dopants, as hole-blocking materials, as hole-transporting materials, or as electron-transporting materials. Oligomeric, dendrimeric, and polymeric compds. of boronic acid or boronic acid derivative compds. are also described. Methods for synthesizing polymers including boronic acid, derivs. are described which entail polycondensation of aliphatic or aromatic bis(diols), bis(dithiols), bis(diamines), or similar higher substituted compds. with an aromatic bisboronic acid or higher boronic acid or by reaction of an aromatic compound that includes 2 hydroxy, thiol, or amino groups as well as a boronic acid group.

Hit Structure

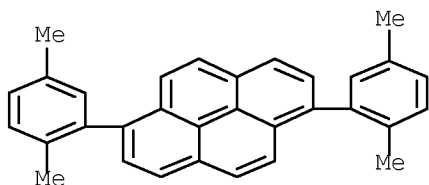
CAS Registry Number
914306-91-5 CAPLUS

Chemical or Trade Name
1,3,2-Dioxaborolane, 2,2'-(3,8-bis(2,5-dimethylphenyl)-1,6-pyrenediyl)bis[4,4,5,5-tetramethyl- (CA INDEX NAME)



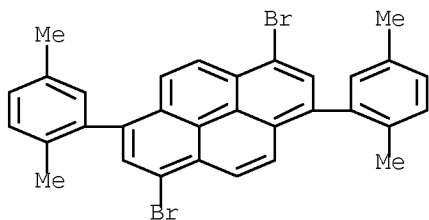
CAS Registry Number
914306-92-6 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(2,5-dimethylphenyl)- (CA INDEX NAME)



CAS Registry Number
914306-93-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-dibromo-3,8-bis(2,5-dimethylphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(6 CITINGS)

.L9 ANSWER 41 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:1157695 CAPLUS [Full:txt](#)

Document Number

145:471240

Title

Preparation of aromatic amine derivatives and organic electroluminescent device containing them

Author/Inventor

Hosokawa, Chishio; Kawamura, Masahiro; Funahashi, Masakazu

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 43pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006114949	A1	20061102	WO 2006-JP305007	20060314
JP 2006298793	A	20061102	JP 2005-119880	20050418
US 20060251925	A1	20061109	US 2006-378332	20060320

KR 2007120545	A	20071224	KR 2007-723949	20071018
CN 101163663	A	20080416	CN 2006-80012999	20071018

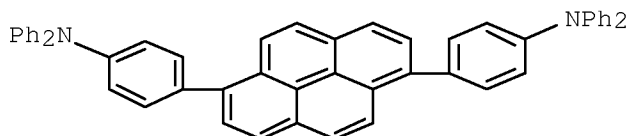
Abstract

The title compds. I [A1, A2, R1 = H, (un)substituted alkyl, (un)substituted aryl, etc.; m, n = 0 - 50; when m or n ≥ 2, substituents A1, A2 may be the same or different and may combine to form (un)saturated rings; x = 1 - 4; when x ≥ 2, the structures within the brackets may be the same or different; q = 0 - 9; when q ≥ 2, substituents R1 may be the same or different; X1 = (un)substituted arylene] are prepared. Thus, the title compound II was prepared from 1,6-dibromopyrene and 4-(diphenylamino)phenylboronic acid in presence of tetrakis(triphenylphosphine)palladium. An organic electroluminescent element containing II showed high light emission luminance and excellent high-temperature storage stability.

Hit Structure

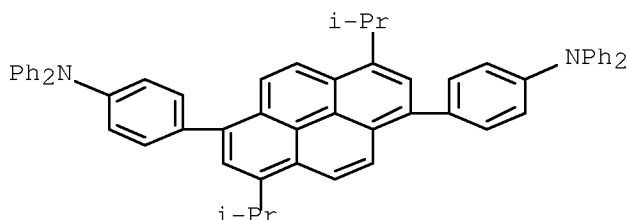
CAS Registry Number
913977-58-9 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N,N-diphenyl- (CA INDEX NAME)



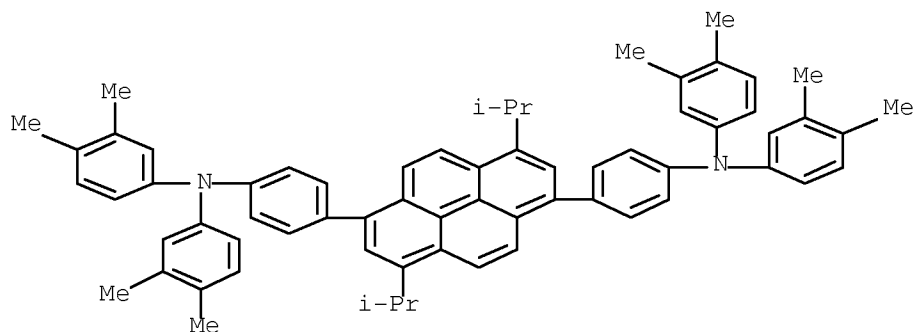
CAS Registry Number
913977-59-0 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(3,8-bis(1-methylethyl)-1,6-pyrenediyl)bis[N,N-diphenyl- (CA INDEX NAME)



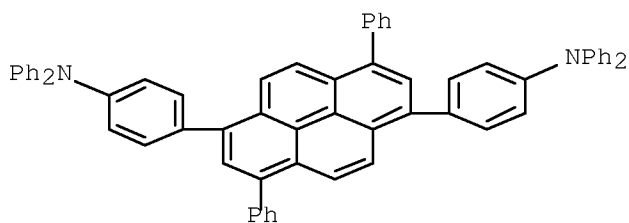
CAS Registry Number
913977-60-3 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(3,8-bis(1-methylethyl)-1,6-pyrenediyl)bis[N,N-bis(3,4-dimethylphenyl)- (CA INDEX NAME)



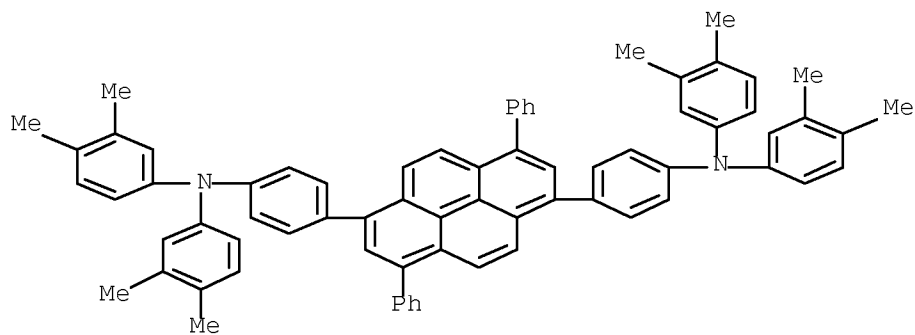
CAS Registry Number
913977-61-4 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(3,8-diphenyl-1,6-pyrenediyl)bis[N,N-diphenyl- (CA INDEX NAME)



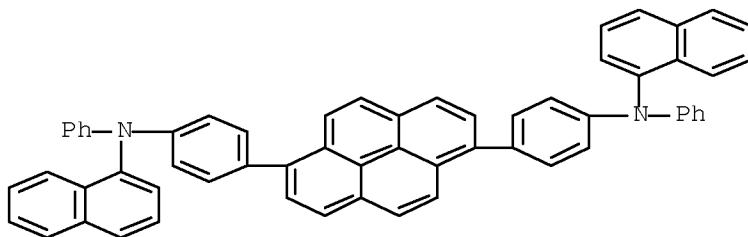
CAS Registry Number
913977-62-5 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(3,8-diphenyl-1,6-pyrenediyl)bis[N,N-bis(3,4-dimethylphenyl)- (CA INDEX NAME)]



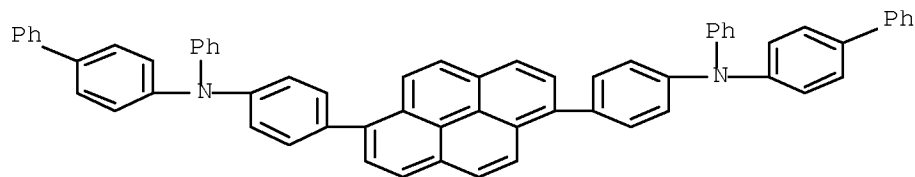
CAS Registry Number
913977-63-6 CAPLUS

Chemical or Trade Name
1-Naphthalenamine, N,N'-(1,6-pyrenediyl-di-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)]



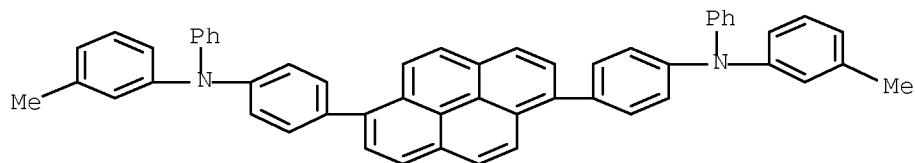
CAS Registry Number
913977-64-7 CAPLUS

Chemical or Trade Name
[1,1'-Biphenyl]-4-amine, N,N'-(1,6-pyrenediyl-di-4,1-phenylene)bis[N-phenyl- (CA INDEX NAME)]



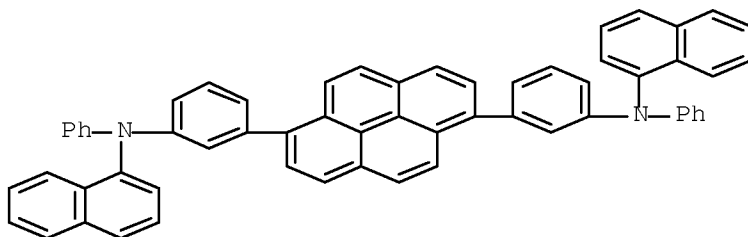
CAS Registry Number
913977-65-8 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N-(3-methylphenyl)-N-phenyl]- (CA INDEX NAME)



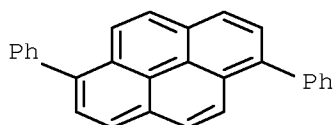
CAS Registry Number
913977-66-9 CAPLUS

Chemical or Trade Name
1-Naphthalenamine, N,N'-(1,6-pyrenediyl-di-3,1-phenylene)bis[N-phenyl]- (9CI) (CA INDEX NAME)



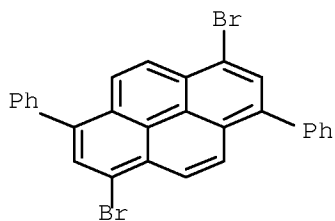
CAS Registry Number
55009-75-1 CAPLUS

Chemical or Trade Name
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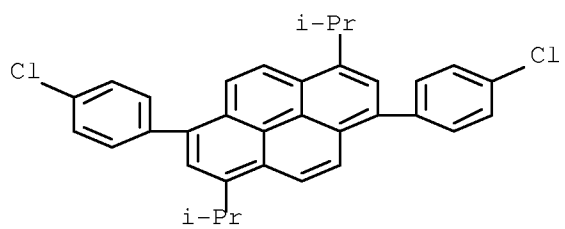
CAS Registry Number
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Chemical or Trade Name
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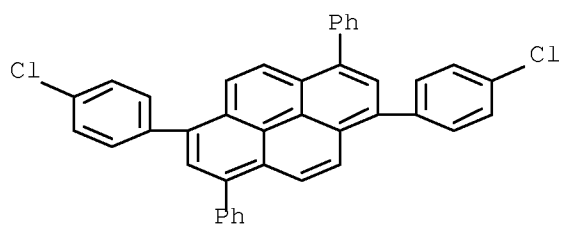
CAS Registry Number
913977-56-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(4-chlorophenyl)-3,8-bis(1-methylethyl)- (CA INDEX NAME)



CAS Registry Number
913977-57-8 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(4-chlorophenyl)-3,8-diphenyl- (CA INDEX NAME)



L9 ANSWER 42 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2006:1037379 CAPLUS [Full-text](#)
Document Number
145:407804

Title
The organic electroluminescent elements and displays

Author/Inventor
Nakayama, Masaya
Patent Assignee/Corporate Source
Fuji Photo Film Co., Ltd., Japan

Source
Jpn. Kokai Tokkyo Koho, 31pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006269670	A	20061005	JP 2005-84525	20050323
US 20070154735	A1	20070705	US 2006-386675	20060323

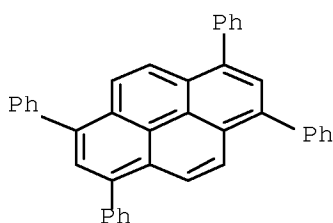
Abstract

The disclosed organic electroluminescent element comprises a support, organic electroluminescent layers, at least one of which contains a 1,3,6,8-tetraphenylpyrene derivative and a triphenylbenzene derivative. The preferred triphenylbenzene derivative is 1,3,5-tris[4-(N-carbazolyl)phenyl]benzene. The electroluminescent element has high emission efficiency, good luminosity, and color purity..

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006098080	A1	20060921	WO 2006-JP300516	20060117
JP 4263700	B2	20090513	JP 2005-73474	20050315
JP 2006256979	A	20060928		
EP 1860096	A1	20071128	EP 2006-711796	20060117
KR 2007110362	A	20071116	KR 2007-720953	20070913
IN 2007CN04053	A	20071123	IN 2007-CN4053	20070917
CN 101142169	A	20080312	CN 2006-80008634	20070917

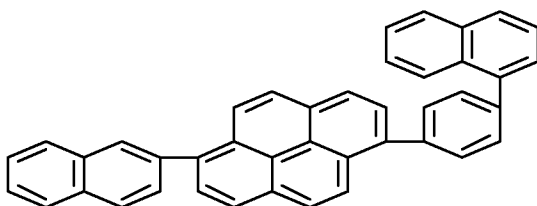
Abstract

The title compds. I [T1 = (A3)c; T2 = (A4)d; T3 = (A1)a; T4 = (A2)b; A1 - A4 = H, (un)substituted alkyl, (un)substituted aryl, (un)substituted aralkyl, etc.; a, b, c, d = 0 - 3; A5 - A12 = (un)substituted alkyl, (un)substituted aryl, (un)substituted aralkyl, etc.; or A5 and A6, A7 and A8, A9 and A10, A11 and A12 may be connected to form a ring; R1 - R10 = H, (un)substituted alkyl, (un)substituted aryl, (un)substituted aralkyl, etc.] are prepared. Thus, the title compound II was prepared from the coupling reaction of 6,12-dibromochrysene with bis(3,4-dimethylphenyl)amine. An organic electroluminescent device containing II showed blue light and luminous efficiency 7.1 cd/A under voltage of 6.5 V.

Hit Structure

CAS Registry Number
870774-21-3 CAPLUS

Chemical or Trade Name
Pyrene, 1-(2-(naphthalenyl)-6-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

L9 ANSWER 44 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:884879 CAPLUS [Full text](#)

Document Number

145:302452

Title

Material for light-emitting element and light-emitting element

Author/Inventor

Sugimoto, Kazunori; Murase, Seichiro; Kitazawa, Daisuke; Nagao, Kazumasa; Ogawa, Takafumi; Tominaga, Tsuyoshi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

PCT Int. Appl., 77pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006090772	A1	20060831	WO 2006-JP303254	20060223
JP 2006265515	A	20061005	JP 2005-180464	20050621
EP 1852486	A1	20071107	EP 2006-714394	20060223
KR 2007114723	A	20071204	KR 2007-719375	20070824
US 20090066245	A1	20090312	US 2007-817143	20070824
CN 101128561	A	20080220	CN 2006-80006231	20070827

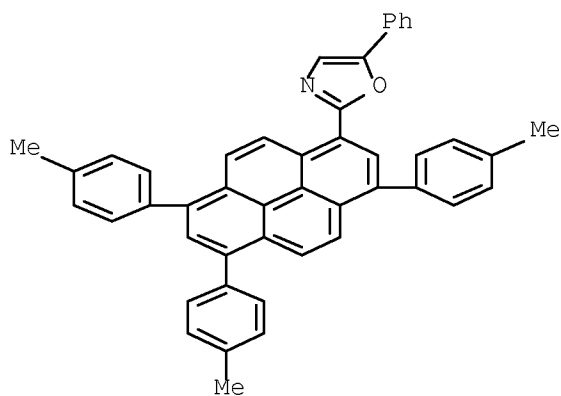
Abstract

The invention relates to a material for a light-emitting device comprising a pyrene compound represented by a general formula I: where R1 to R10 independently represent a specific functional group, provided that at least one of R1 to R10 represents a substituent represented by a general formula II: where R11 to R14 independently represent a specific functional group, provided that any one of R11 to R14 is used for the single bonding to the pyrene backbone; X1 represents any one of the groups of -O-, -S-, -N(R15); Y1 to Y4 are independently selected from a nitrogen atom and a carbon atom, provided that at least one of Y1 to Y4 is a nitrogen atom and at least one of Y1 to Y4 is a carbon atom and, when it is a nitrogen atom, the nitrogen atom has no substituent attached, R15 represents a specific functional group. By using this material, a light-emitting device having higher light-emitting efficiency and excellent durability can be provided.

Hit Structure

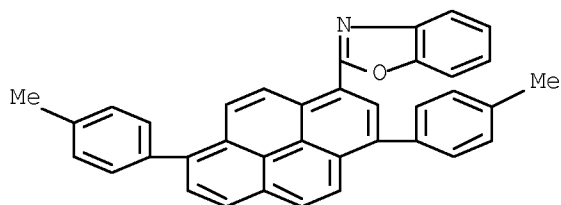
CAS Registry Number
908011-57-4 CAPLUS

Chemical or Trade Name
Oxazole, 5-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



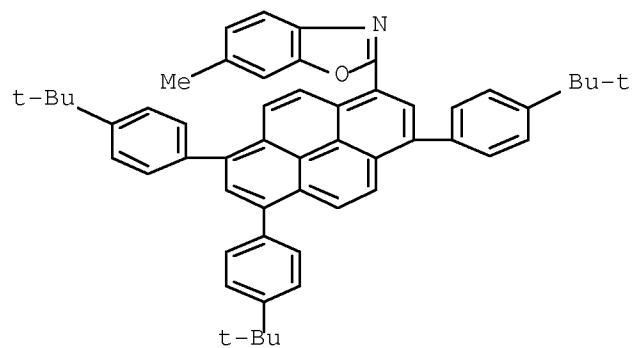
CAS Registry Number
908011-69-8 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



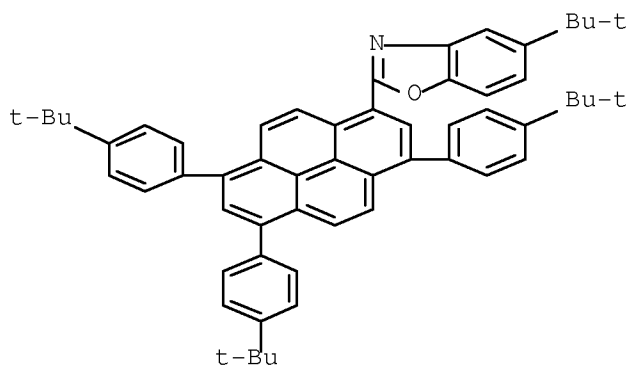
CAS Registry Number
908011-74-5 CAPLUS

Chemical or Trade Name
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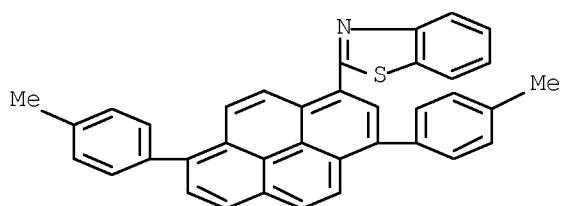
CAS Registry Number
908011-75-6 CAPLUS

Chemical or Trade Name
Benzoxazole, 5-(1,1-dimethylethyl)-2-[3,6,8-tris[4-(1,1-dimethylethyl)phenyl]-1-pyrenyl]- (CA INDEX NAME)



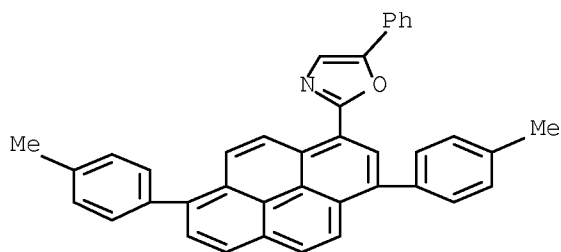
CAS Registry Number
908011-68-7 CAPLUS

Chemical or Trade Name
Benzothiazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



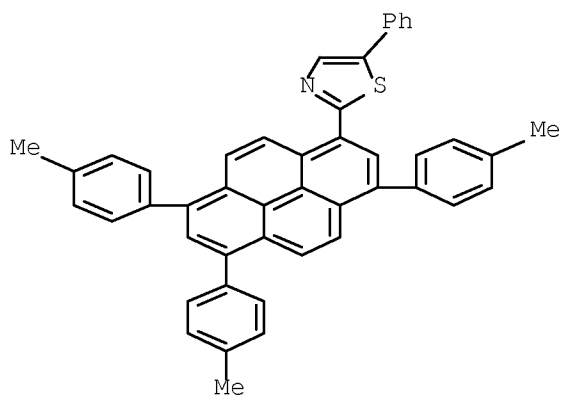
CAS Registry Number
908011-61-0 CAPLUS

Chemical or Trade Name
Oxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-phenyl- (CA INDEX NAME)



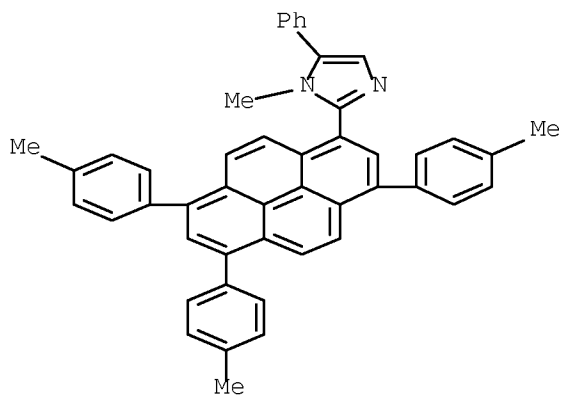
CAS Registry Number
908011-62-1 CAPLUS

Chemical or Trade Name
Thiazole, 5-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



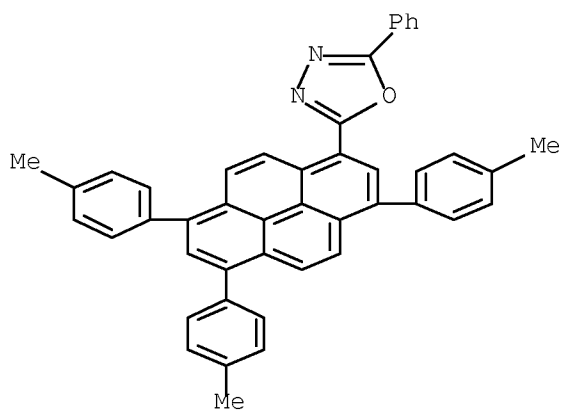
CAS Registry Number
908011-63-2 CAPLUS

Chemical or Trade Name
1H-Imidazole, 1-methyl-5-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]-
(CA INDEX NAME)



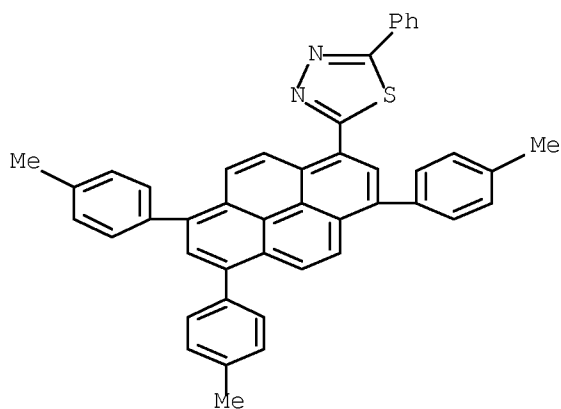
CAS Registry Number
908011-64-3 CAPLUS

Chemical or Trade Name
1,3,4-Oxadiazole, 2-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA
INDEX NAME)



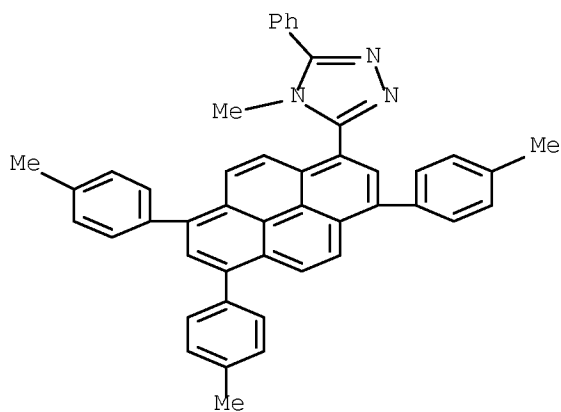
CAS Registry Number
908011-65-4 CAPLUS

Chemical or Trade Name
1,3,4-Thiadiazole, 2-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA
INDEX NAME)



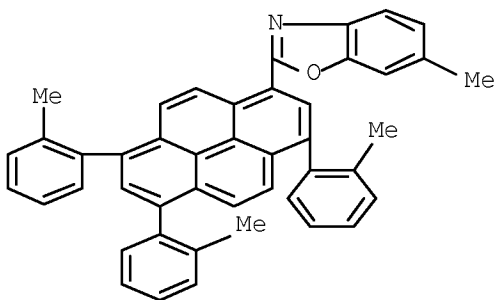
CAS Registry Number
908011-66-5 CAPLUS

Chemical or Trade Name
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pyrenyl]- (CA INDEX NAME)



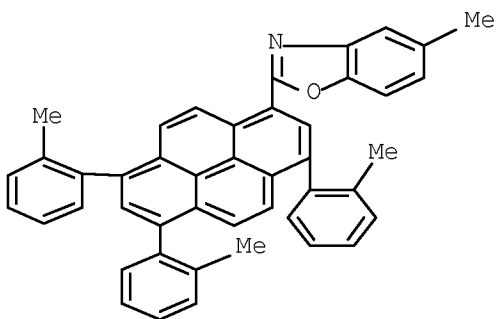
CAS Registry Number
908011-76-7 CAPLUS

Chemical or Trade Name
Benzoxazole, 6-methyl-2-[3,6,8-tris(2-methylphenyl)-1-pyrenyl]- (CA INDEX
NAME)



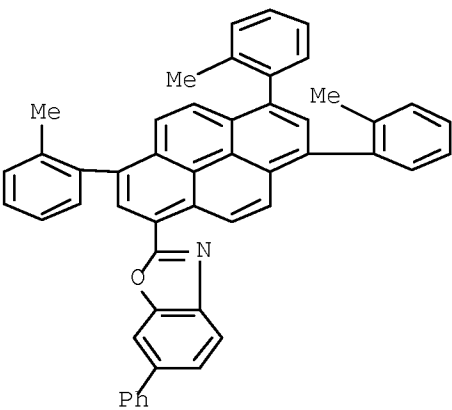
CAS Registry Number
908011-77-8 CAPLUS

Chemical or Trade Name
Benzoxazole, 5-methyl-2-[3,6,8-tris(2-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



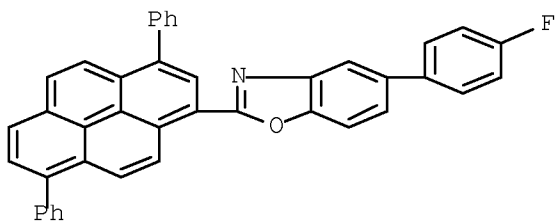
CAS Registry Number
908011-78-9 CAPLUS

Chemical or Trade Name
Benzoxazole, 6-phenyl-2-[3,6,8-tris(2-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



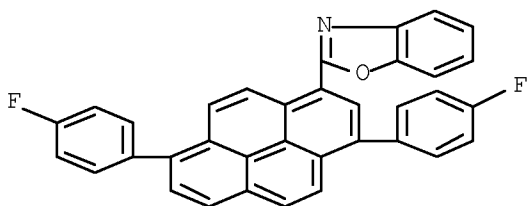
CAS Registry Number
908011-79-0 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-(3,8-diphenyl-1-pyrenyl)-5-(4-fluorophenyl)- (CA INDEX NAME)



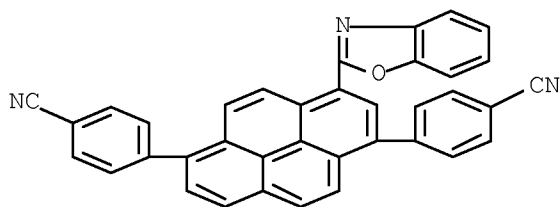
CAS Registry Number
908011-81-4 CAPLUS

Chemical or Trade Name
Benzoxazole, 2-[3,8-bis(4-fluorophenyl)-1-pyrenyl]- (CA INDEX NAME)



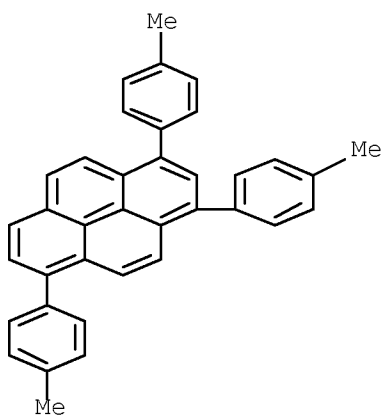
CAS Registry Number
908011-83-6 CAPLUS

Chemical or Trade Name
Benzonitrile, 4,4'-[3-(2-benzoxazolyl)-1,6-pyrenediyl]bis- (9CI) (CA INDEX NAME)



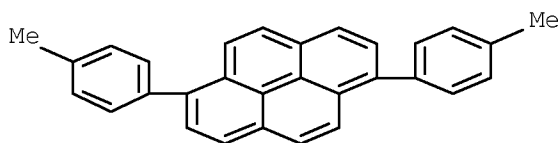
CAS Registry Number
908011-84-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-tris(4-methylphenyl)- (CA INDEX NAME)



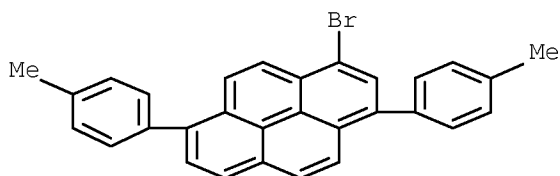
CAS Registry Number
908011-87-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis(4-methylphenyl)- (CA INDEX NAME)



CAS Registry Number
908011-88-1 CAPLUS

Chemical or Trade Name
Pyrene, 3-bromo-1,6-bis(4-methylphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)

. L9 ANSWER 45 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:566609 CAPLUS [Full-text](#)

Document Number

145:37063

Title

Organic electroluminescent device

Author/Inventor

Kawamura, Hisayuki; Kubota, Mineyuki

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 70 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006062078	A1	20060615	WO 2005-JP22336	20051206
US 20070134511	A1	20070614	US 2005-296400	20051208

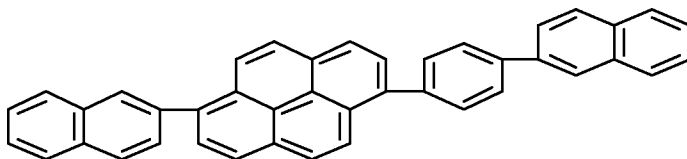
Abstract

Disclosed is an organic electroluminescent device comprising at least a pair of electrodes and a light-emitting layer interposed between them. This organic electroluminescent device is characterized in that the light-emitting layer contains a derivative which includes an asym. substituted anthracene as a partial structure and an amine derivative represented by the formula I, where Ar1-Ar4 resp. represent a substituted or unsubstituted aromatic ring having 6-50 nuclear carbon atoms; R1 and R2 represent substituents which may be the same as or different from each other, or they may combine together to form a saturated or unsatd. ring; and p represents an integer of 1-6.

Hit Structure

CAS Registry Number
888705-94-0 CAPLUS

Chemical or Trade Name
Pyrene, 1-(2-naphthalenyl)-6-[4-(2-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

.L9 ANSWER 46 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2006:538865 CAPLUS [Full-text](#)

Document Number
145:37410

Title
Organic electroluminescent device

Author/Inventor
Kawamura, Hisayuki; Kubota, Mineyuki; Funahashi, Masakazu

Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 67 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006059512	A1	20060608	WO 2005-JP21469	20051122
JP 2006156888	A	20060615	JP 2004-348675	20041201
CN 101069299	A	20071107	CN 2005-80041191	20051122
US 20060158102	A1	20060720	US 2005-288281	20051129
US 7528542	B2	20090505		
KR 2007091280	A	20070910	KR 2007-712284	20070531

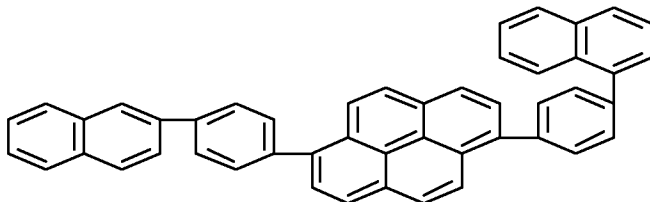
Abstract

Disclosed is an organic electroluminescent device comprising at least an anode, a cathode and an organic **light**-emitting layer interposed between the electrodes, wherein the organic **light**-emitting layer contains one or more host materials, a hole-trapping dopant and an electron-trapping dopant. By having the hole-trapping dopant and the electron-trapping dopant coexist in the organic **light**-emitting layer, the organic electroluminescent device can have a longer life.

Hit Structure

CAS Registry Number
870774-17-7 CAPLUS

Chemical or Trade Name
Pyrene, 1-[4-(1-naphthalenyl)phenyl]-6-[4-(2-naphthalenyl)phenyl]- (CA
INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(7 CITINGS)

.L9 ANSWER 47 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2006:510707 CAPLUS [Full-text](#)

Document Number
145:17894

Title
Pyrene compound and **light** emitting transistor device utilizing the same for electroluminescent display

Author/Inventor
Oyamada, Takahito; Uchiuzou, Hiroyuki; Adachi, Chihaya; Akiyama, Seiji; Takahashi, Takayoshi

Patent Assignee/Corporate Source
Kyoto University, Japan; Nippon Telegraph and Telephone Corporation; Pioneer Corporation; Hitachi, Ltd.; Mitsubishi Chemical Corporation; Rohm Co., Ltd.

Source
PCT Int. Appl., 47 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006057326	A1	20060601	WO 2005-JP21648	20051125
JP 2006176491	A	20060706	JP 2005-257934	20050906
EP 1816114	A1	20070808	EP 2005-809746	20051125
CN 101080376	A	20071128	CN 2005-80040407	20051125
KR 2007095300	A	20070928	KR 2007-714327	20070622
US 20080105865	A1	20080508	US 2007-791674	20070806

Abstract

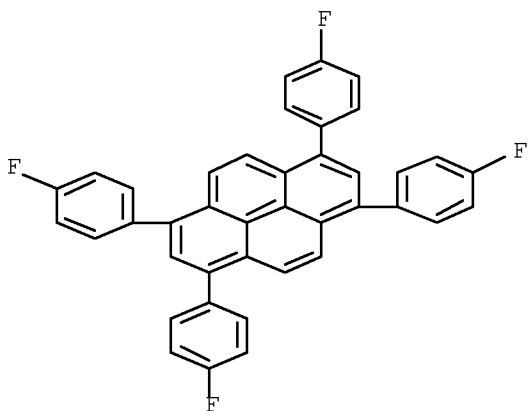
A pyrene compound that when used in a **light** emitting transistor device, excels in both the properties of **light** emission and mobility; and a **light** emitting transistor device utilizing such a specified pyrene compound As a main constituent of a luminescent layer of **light** emitting transistor device, use is made of a pyrene compound of the chemical formula I (R1 = heteroaryl, aryl (excluding Ph), C1-20-alkyl, alkenyl, alkynyl, silyl, halo).

Hit Structure

CAS Registry Number
835878-24-5 CAPLUS

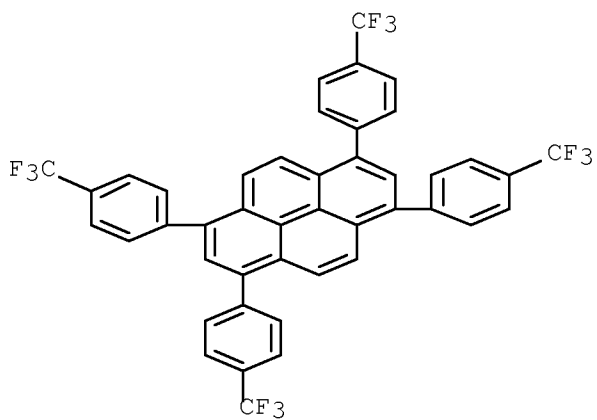
Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis(4-fluorophenyl)- (CA INDEX NAME)



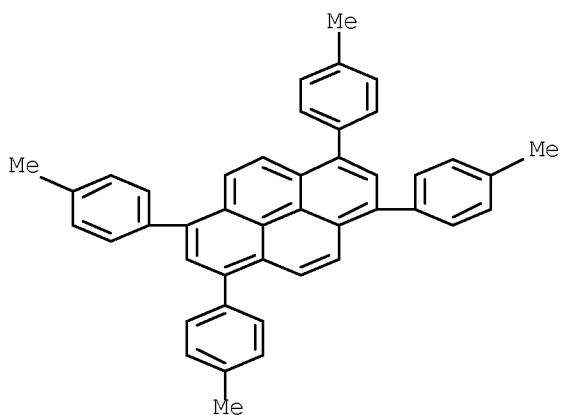
CAS Registry Number
881853-23-2 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



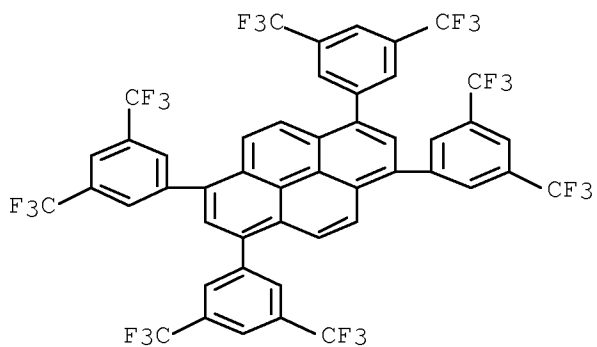
CAS Registry Number
887909-71-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(4-methylphenyl)- (CA INDEX NAME)



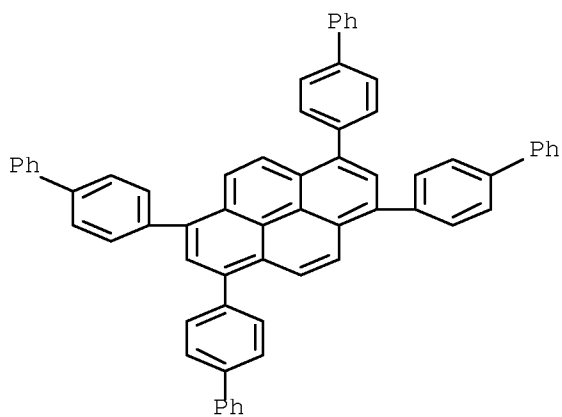
CAS Registry Number
887909-73-1 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[3,5-bis(trifluoromethyl)phenyl]- (CA INDEX NAME)



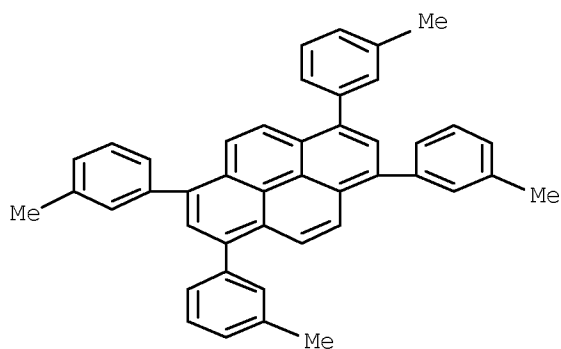
CAS Registry Number
790273-07-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



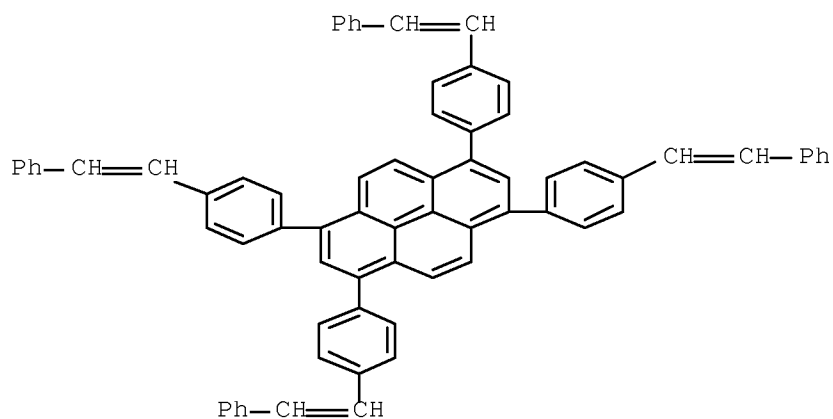
CAS Registry Number
870133-71-4 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(3-methylphenyl)- (CA INDEX NAME)



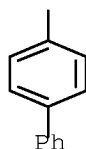
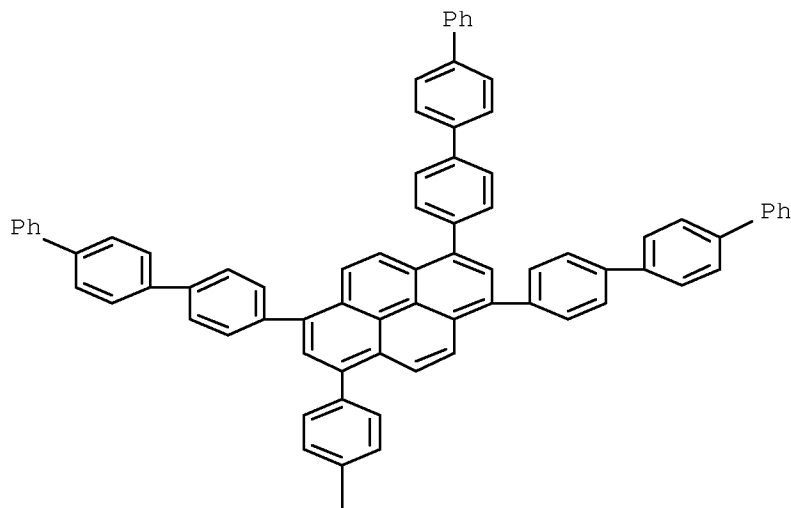
CAS Registry Number
887909-55-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[4-(2-phenylethenyl)phenyl]- (CA INDEX NAME)



CAS Registry Number
887909-57-1 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis([1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(7 CITINGS)

L9 ANSWER 48 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:510508 CAPLUS Full-text

Document Number

145:17891

Title

Pyrene compound and, utilizing the same, **light** emitting transistor device and electroluminescence device

Author/Inventor

Oyamada, Takahito; Uchiuzou, Hiroyuki; Adachi, Chihaya; Akiyama, Seiji; Takahashi, Takayoshi

Patent Assignee/Corporate Source

Kyoto University, Japan; Nippon Telegraph and Telephone Corporation; Pioneer Corporation; Hitachi, Ltd.; Mitsubishi Chemical Corporation; Rohm Co., Ltd.

Source

PCT Int. Appl., 66 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006057325	A1	20060601	WO 2005-JP21647	20051125
JP 2006176494	A	20060706	JP 2005-282590	20050928
EP 1818322	A1	20070815	EP 2005-809745	20051125
CN 101072743	A	20071114	CN 2005-80040399	20051125
KR 2007093401	A	20070918	KR 2007-714336	20070622
US 20080012475	A1	20080117	US 2007-791613	20070806

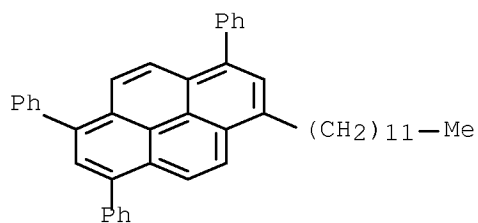
Abstract

An organic phosphor of the following formula I (R1 = heteroaryl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R2 = heteroalkyl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R1 ≠ R2) that can be used in both a **light** emitting transistor device and an organic EL device. There is provided a **light** emitting transistor device or an organic EL device, wherein luminescence of such a specified asym. pyrene compound is utilized in a **light** emitting layer of transistor device or a luminescent layer, hole transporting layer or electron transporting layer of organic electroluminescence device.

Hit Structure

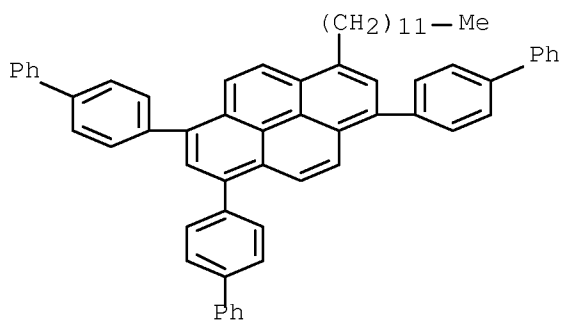
CAS Registry Number
887917-92-2 CAPLUS

Chemical or Trade Name
Pyrene, 1-dodecyl-3,6,8-triphenyl- (CA INDEX NAME)



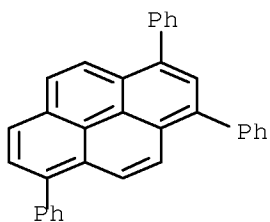
CAS Registry Number
887917-94-4 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-tris([1,1'-biphenyl]-4-yl)-8-dodecyl- (CA INDEX NAME)



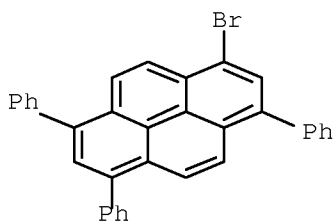
CAS Registry Number
887918-05-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-triphenyl- (CA INDEX NAME)



CAS Registry Number
887918-07-2 CAPLUS

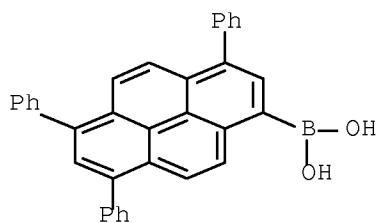
Chemical or Trade Name
Pyrene, 1-bromo-3,6,8-triphenyl- (CA INDEX NAME)



CAS Registry Number
887918-18-5 CAPLUS

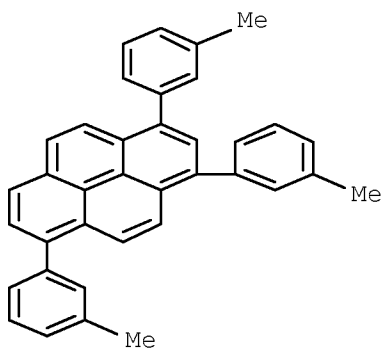
Chemical or Trade Name

Boronic acid, B-(3,6,8-triphenyl-1-pyrenyl)- (CA INDEX NAME)



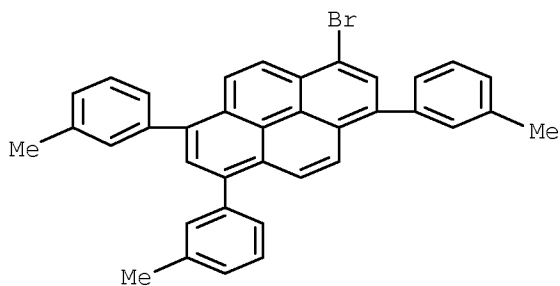
CAS Registry Number
887918-26-5 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-tris(3-methylphenyl)- (CA INDEX NAME)



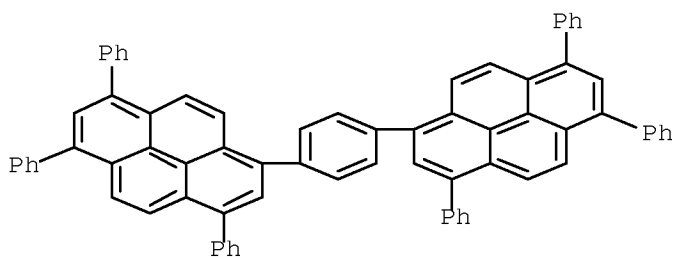
CAS Registry Number
887918-30-1 CAPLUS

Chemical or Trade Name
Pyrene, 1-bromo-3,6,8-tris(3-methylphenyl)- (CA INDEX NAME)



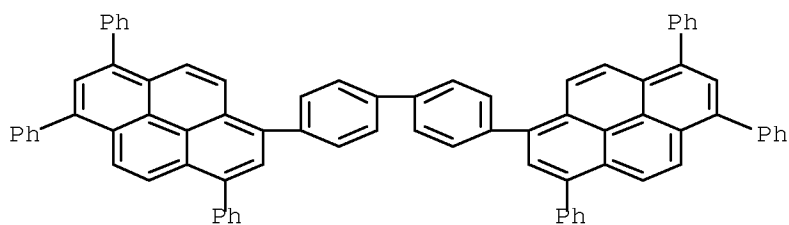
CAS Registry Number
887918-09-4 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6-triphenyl-8-[4-(3,6,8-triphenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



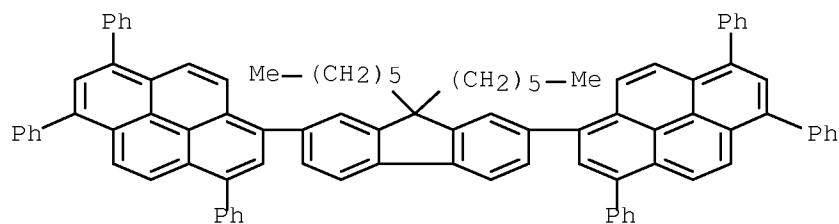
CAS Registry Number
887918-12-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1'-biphenyl]-4,4'-diylbis[3,6,8-triphenyl- (9CI) (CA INDEX NAME)



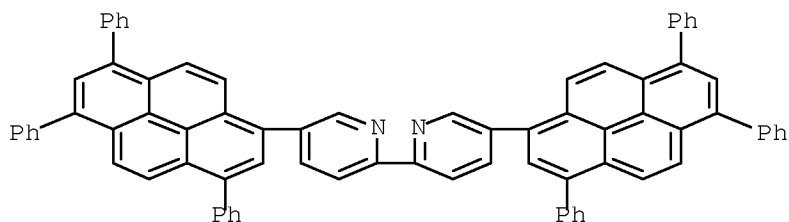
CAS Registry Number
887918-16-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[3,6,8-triphenyl- (CA INDEX NAME)



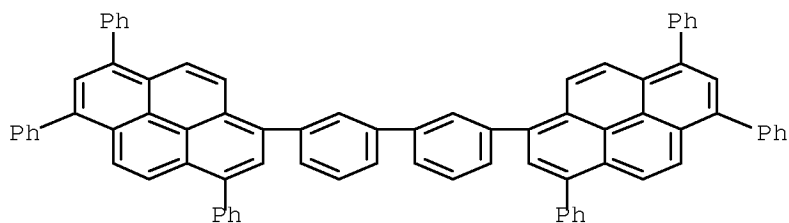
CAS Registry Number
887918-21-0 CAPLUS

Chemical or Trade Name
2,2'-Bipyridine, 5,5'-bis(3,6,8-triphenyl-1-pyrenyl)- (CA INDEX NAME)



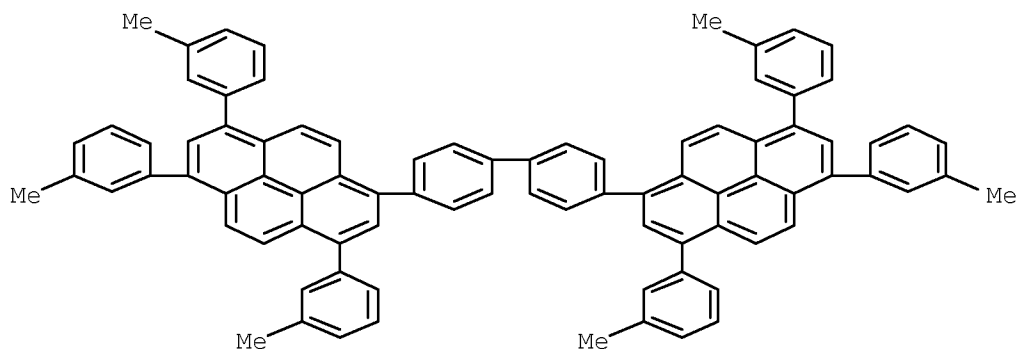
CAS Registry Number
887918-23-2 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1'-biphenyl]-3,3'-diylbis[3,6,8-triphenyl- (9CI) (CA INDEX NAME)



CAS Registry Number
887918-32-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,1'-[1,1'-biphenyl]-4,4'-diylbis[3,6,8-tris(3-methylphenyl)-
(9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

.L9 ANSWER 49 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2006:262298 CAPLUS [Full-text](#)

Document Number

144:422134

Title

Estimation of carrier recombination and electroluminescence emission regions in organic light-emitting field-effect transistors using local doping method

Author/Inventor

Oyamada, Takahito; Sasabe, Hiroyuki; Oku, Yoshiaki; Shimoji, Noriyuki; Adachi, Chihaya

Patent Assignee/Corporate Source

Department of Photonics Materials Science, Chitose Institute of Science and Technology, 758-65 Bibi, Chitose, Hokkaido, 066-8655, Japan

Source

Applied Physics Letters (2006), 88(9), 093514/1-093514/3 CODEN: APPLAB; ISSN: 0003-6951

Document Type

Journal

Language

English

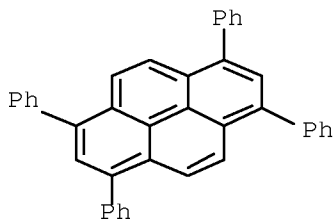
Abstract

To elucidate the electroluminescence (EL) mechanism of organic light-emitting field-effect transistors (OLEFETs), the authors determined the carrier recombination and EL emission regions using the local doping method. The local doping method is a useful technique for estimating the width of these regions in OLEFETs. The authors inserted an ultrathin rubrene doped 1,3,6,8-tetraphenylpyrene (TPPy) layer (d = 10 nm) as a sensing layer in a TPPy layer (80 nm) and measured the luminance-drain current-drain voltage characteristics and the EL spectra depending on the position of the sensing layer. The EL emission region expanded almost to the height (h.simeq.40 nm) of the source-drain electrodes and was independent of the gate bias voltage (Vg). Further, the EL external quantum efficiency (η_{ext}) significantly decreased as Vg increased, suggesting that excitons generated in a TPPy host layer by carrier recombination are quenched by the application of Vg.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



Accession Number

2006:88285 CAPLUS [Full-text](#)

Document Number

145:82913

Title

Ab Initio Study of Substituted Pyrenes for Blue Organic Light-Emitting Diodes

Author/Inventor

Park, Yong Hwan; Lee, Young Hee; Park, Gui Youn; Park, No Gill; Kim, Young Sik

Patent Assignee/Corporate Source

Department of Molecular Electronics Engineering, Hongik University, Seoul, S. Korea

Source

Molecular Crystals and Liquid Crystals (2006), 444, 177-184 CODEN: MCLCD8; ISSN: 1542-1406

Document Type

Journal

Language

English

Abstract

Luminescence efficiency of pyrene mol. is very low because of the aggregation effect of planar pyrene molts. However, 1,3,6,8-tetra-substituted pyrenes with large electron donating group were reported to give a bright blue fluorescence. 1,6-Bi-substituted and 1,4,6,9-tetra-substituted pyrenes as well as 1,3,6,8-tetra-substituted pyrenes were studied to find out the possibilities as the blue fluorescent materials of organic light-emitting diodes (OLEDs). Geometrical and elec. calcs. were performed by ab initio methods. HF/3-21G(d) basis set was used for the geometry optimization of the ground electronic states of those compds. The geometry of the low-lying excited electronic state was optimized using CI with single excitation (CIS) method. The vertical and adiabatic transition energies were calculated by time-dependent d. functional theory (TD-DFT) using the B1LYP functional with 6-31G(d) basis set. From calculational results, it was explained that the change in fluorescence wavelength was affected by the position and the number of substituents, through analyzing the change of energy levels of the highest occupied MOs (HOMOs) and the lowest unoccupied MOs (LUMOs) of pyrene. Some of substituted pyrenes showed possibilities as stronger fluorescent materials. New efficient emitting materials for OLEDs were proposed from the calcn. results obtained by tuning the position, the number of substitution and the species of substituting moiety.

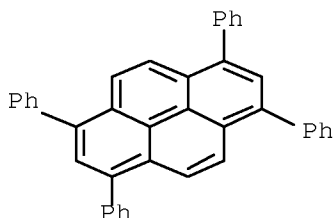
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CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)

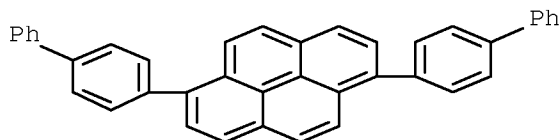


CAS Registry Number

722498-71-7 CAPLUS

Chemical or Trade Name

Pyrene, 1,6-bis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)

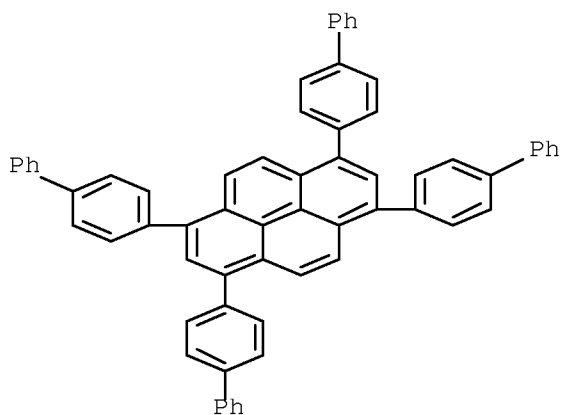


CAS Registry Number

790273-07-3 CAPLUS

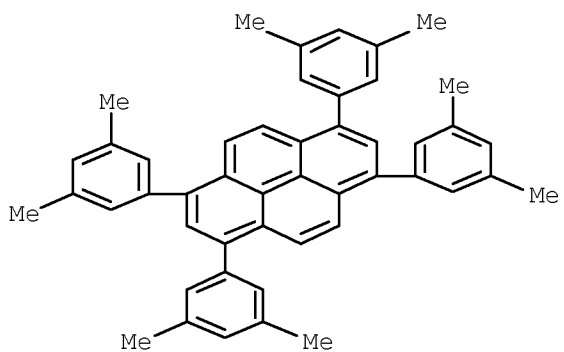
Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



CAS Registry Number
863639-30-9 CAPLUS

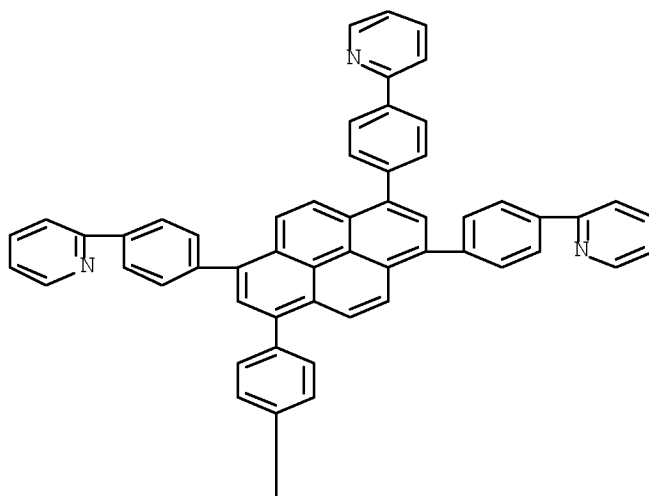
Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(3,5-dimethylphenyl)- (CA INDEX NAME)



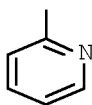
CAS Registry Number
894418-26-9 CAPLUS

Chemical or Trade Name
Pyridine, 2,2',2'',2'''-(1,3,6,8-pyrenetetrayltetra-4,1-phenylene)tetrakis-
(9CI) (CA INDEX NAME)

PAGE 1-A

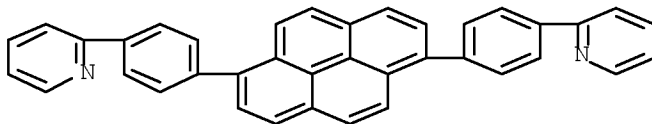


PAGE 2-A



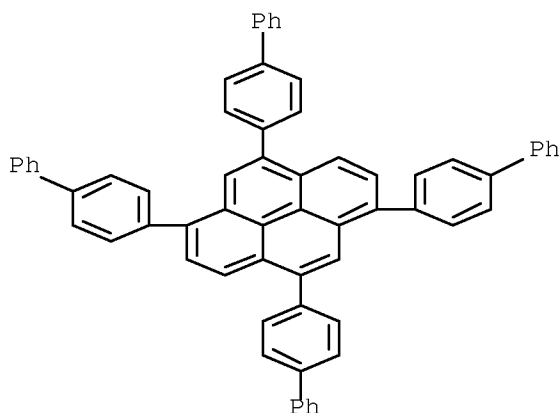
CAS Registry Number
894418-31-6 CAPLUS

Chemical or Trade Name
Pyridine, 2,2'-(1,6-pyrenediyl)-4,4'-bis- (9CI) (CA INDEX NAME)



CAS Registry Number
894418-36-1 CAPLUS

Chemical or Trade Name
Pyrene, 1,4,6,9-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



, L9 ANSWER 51 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:1292773 CAPLUS [Full-text](#)

Document Number

144:42963

Title

Asymmetric pyrene derivative and organic electroluminescent device using same to improve luminous efficiency and long life

Author/Inventor

Kubota, Mineyuki; Funahashi, Masakazu; Hosokawa, Chishio

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 48 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005115950	A1	20051208	WO 2005-JP8494	20050510
EP 1749809	A1	20070207	EP 2005-739101	20050510
CN 1960957	A	20070509	CN 2005-80017149	20050510
US 20060154107	A1	20060713	US 2005-282582	20051121
KR 2007029717	A	20070314	KR 2006-724933	20061127
IN 2006CN04355	A	20070629	IN 2006-CN4355	20061127

Abstract

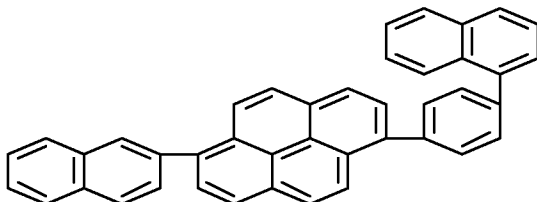
Disclosed are asym. pyrene derivs. having substituents $((L)mAr)^n$ and $((L')sAr')^t$ (Ar, Ar' = C6-50-aromatic group; L, L' = phenylene, naphthalenylene, fluorenylene, dibenzosilolylene; m = 0-2; n = 1-4; s = 0-2; t = 0-4). An organic electroluminescent device comprising an organic thin film layer which is interposed between an anode and a cathode and composed of one or more layers including at least a **light-emitting layer** is also disclosed wherein the organic thin film layer contains at least one of the asym. pyrene derivs. by itself or as a component of a mixture. Such an organic electroluminescent device has high luminous efficiency and long life due to the asym. pyrene derivative.

Hit Structure

CAS Registry Number
870774-21-3 CAPLUS

Chemical or Trade Name

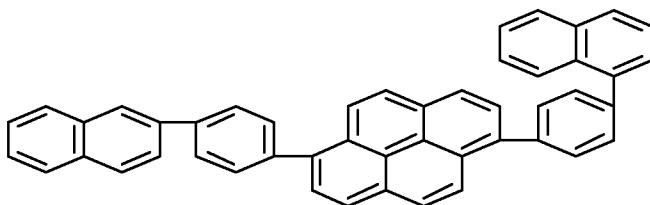
Pyrene, 1-(2-naphthalenyl)-6-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



CAS Registry Number
870774-17-7 CAPLUS

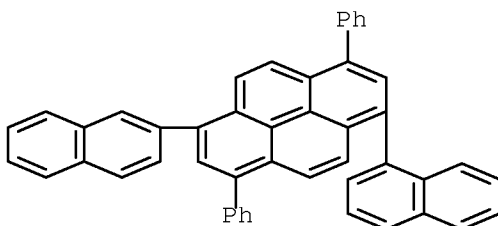
Chemical or Trade Name

Pyrene, 1-[4-(1-naphthalenyl)phenyl]-6-[4-(2-naphthalenyl)phenyl]- (CA INDEX NAME)



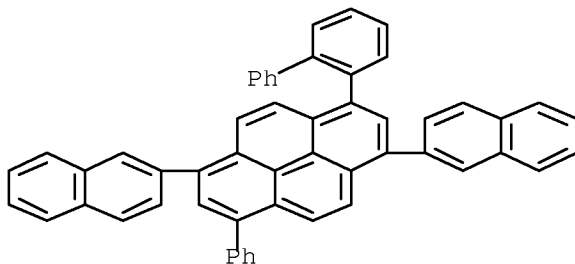
CAS Registry Number
870774-23-5 CAPLUS

Chemical or Trade Name
Pyrene, 1-(1-naphthalenyl)-6-(2-naphthalenyl)-3,8-diphenyl- (CA INDEX NAME)



CAS Registry Number
870774-24-6 CAPLUS

Chemical or Trade Name
Pyrene, 1-[1,1'-biphenyl]-2-yl-3,8-di-2-naphthalenyl-6-phenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITINGS)

L9 ANSWER 52 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2005:1154873 CAPLUS [Full-text](#)

Document Number
143:429826

Title
Organic electroluminescent device and organic electroluminescent display

Author/Inventor

Itai, Yuichiro

Patent Assignee/Corporate Source
Fujitsu Limited, Japan

Source
PCT Int. Appl., 32 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005101911	A1	20051027	WO 2004-JP4662	20040331
TW 252051	B	20060321	TW 2004-93108675	20040330
US 20070285005	A1	20071213	US 2007-594600	20070608

Abstract

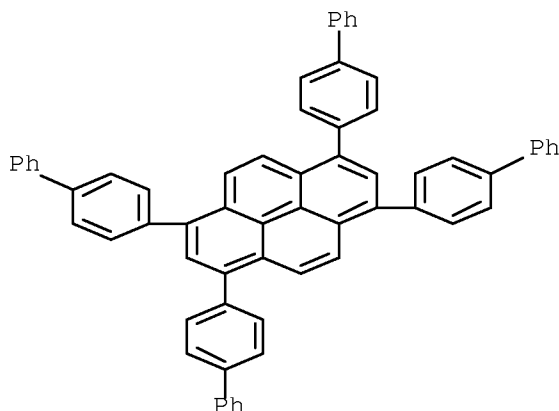
An organic electroluminescent (EL) device comprises an anode, a hole injection layer, a hole transport layer, a blue light-emitting layer, a hole blocking layer, an electron transport layer, and a cathode formed sequentially on a

glass substrate wherein the chromaticity of blue is enhanced while prolonging the lifetime by composing the electron transport layer of an electron transport material and a light-emitting material having a peak wavelength of emission spectrum longer than 555 nm, consuming holes by the light-emitting material and suppressing deterioration of the electron transport material.

Hit Structure

CAS Registry Number
790273-07-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



L9 ANSWER 53 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2005:1144923 CAPLUS [Full:txt](#)

Document Number
144:29415

Title
Lateral organic light-emitting diode with field-effect transistor characteristics

Author/Inventor
Oyamada, Takahito; Uchiuzou, Hiroyuki; Akiyama, Seiji; Oku, Yoshiaki; Shimoji, Noriyuki; Matsushige, Kazumi; Sasabe, Hiroyuki; Adachi, Chihaya
Patent Assignee/Corporate Source
Department of Photonics Materials Science, Chitose Institute of Science and Technology (CIST), 758-65 Bibi, Chitose, Hokkaido, 066-8655, Japan

Source
Journal of Applied Physics (2005), 98(7), 074506/1-074506/7 CODEN: JAPIAU; ISSN: 0021-8979

Document Type
Journal

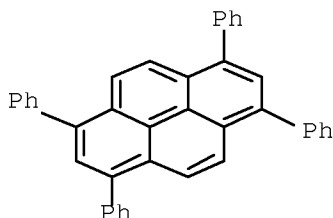
Language
English

Abstract
Bright electroluminescence (EL) was observed from 1%-rubrene doped tetraphenylpyrene (TPPy) as an active layer in a lateral organic LED structure that allowed FET operation. This device configuration provides an organic LED structure where the anode (source) and cathode (drain) electrodes are laterally arranged, providing one a chance to control the EL intensity by changing the gate bias. TPPy provides compatible transistor and EL characteristics. Rubrene doping into the TPPy host and adjusting the source-drain channel length significantly improved the EL characteristics. A maximum EL quantum efficiency (η_{ext}) of .apprx.0.5% was observed with a Cr/Au source (S)-drain (D) electrode and a slightly higher η_{ext} of .apprx.0.8% with S-D electrodes of MgAu/Au, Al/Au, Cr/YAu/Au, and MgAl/Au multilayers, aiming for simultaneous hole and electron injection.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



_L9 ANSWER 54 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2005:962579 CAPLUS [Full-text](#)
Document Number
143:256816

Title
White organic electroluminescence device
Author/Inventor
Tokairin, Hiroshi; Fukuoka, Kenichi; Kubota, Mineyuki; Funahashi, Masakazu
Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
PCT Int. Appl., 63 pp. CODEN: PIXXD2

Document Type
Patent

Language
Japanese

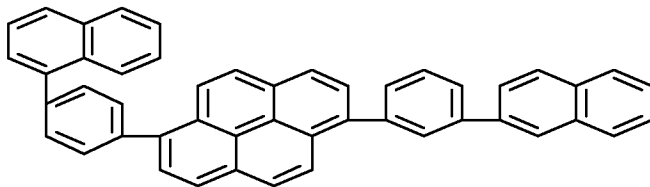
Patent Information					
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 2005081587	A1	20050901	WO 2005-JP2442	20050217	
EP 1718124	A1	20061102	EP 2005-719244	20050217	
CN 1879454	A	20061213	CN 2005-80001270	20050217	
US 20070063638	A1	20070322	US 2006-573661	20060328	
KR 2006115372	A	20061108	KR 2006-708168	20060427	

Abstract
The invention refers to a white organic electroluminescence device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more organic thin film layers including at least a **light** emitting layer, wherein the **light** emitting layer is constituted of a laminate of blue color **light** emitting layer and yellow-to-red color **light** emitting layer and contains an asym. condensed-ring-containing compound This white color organic electroluminescence device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strikingly prolonged service life.

Hit Structure

CAS Registry Number
863292-28-8 CAPLUS

Chemical or Trade Name
Pyrene, 1-[3-(2-naphthalenyl)phenyl]-6-[4-(1-naphthalenyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(7 CITINGS)

_L9 ANSWER 55 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2005:656260 CAPLUS [Full-text](#)
Document Number
143:275223

Title
Tetra-substituted pyrenes: new class of blue emitter for organic **light**-emitting diodes
Author/Inventor
Sotoyama, Wataru; Sato, Hiroyuki; Kinoshita, Masaru; Takahashi, Toshiro; Matsuura, Azuma; Kodama, Jun; Sawatari, Norio; Inoue, Hiroshi
Patent Assignee/Corporate Source
Functional Organic Materials Laboratory, Fujitsu Laboratories Limited, Morinosato-Wakamiya, Atsugi, 243-0197, Japan

Source
Digest of Technical Papers - Society for Information Display International Symposium (2003), 34, 1294-1297 CODEN: DTPSDS

Document Type
Journal; (computer optical disk)

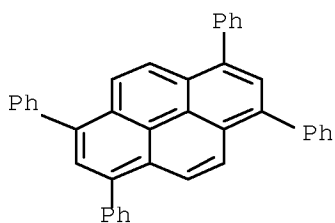
Language
English

Abstract
We have developed a new class of highly-fluorescent blue emitter for organic **light**-emitting diodes (OLEDs) consisting of tetra-substituted pyrenes. From the anal. of the excited state diagrams of pyrene and its derivs. by MO calcns., we found that the new tetra-substituted pyrenes are highly fluorescent. OLEDs fabricated using the synthesized tetra-substituted pyrenes as emitters showed high efficiency and good color purity.

Hit Structure

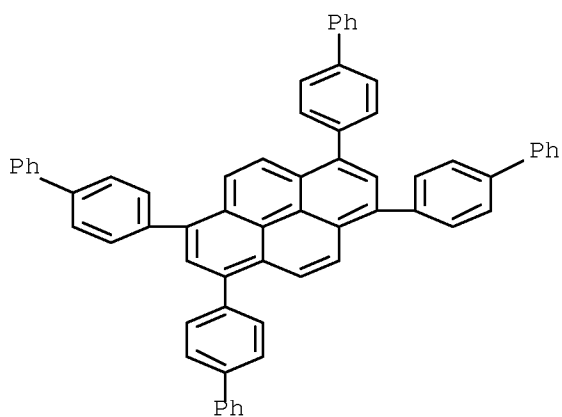
CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



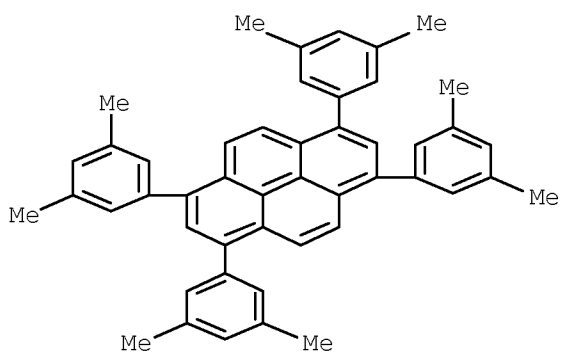
CAS Registry Number
790273-07-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



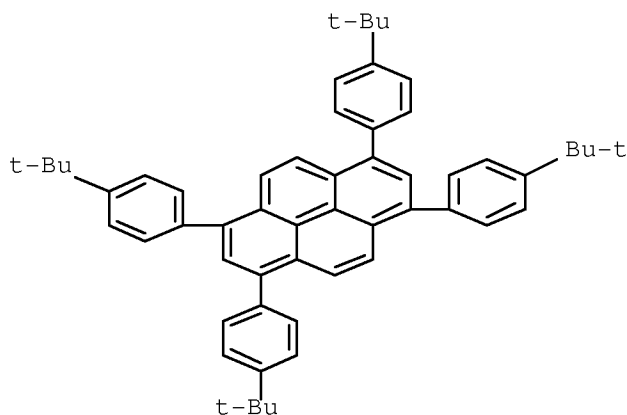
CAS Registry Number
863639-30-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(3,5-dimethylphenyl)- (CA INDEX NAME)



CAS Registry Number
863639-31-0 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

L9 ANSWER 56 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:336613 CAPLUS [Full-text](#)

Document Number

144:13629

Title

High-performance blue OLEDs based on a sterically hindered pyrene host material

Author/Inventor

Yeh, Chia-Chun; Lee, Meng-Ting; Chen, Hsian-Hung; Chen, Chin H.

Patent Assignee/Corporate Source

Department of Applied Chemistry, National Chiao Tung University, Hsinshu, Taiwan, 300, Taiwan

Source

Digest of Technical Papers - Society for Information Display International Symposium (2004), 35, 788-791 CODEN: DTPSDS

Document Type

Journal; (computer optical disk)

Language

English

Abstract

The authors developed a blue organic light-emitting device (OLED) emitter based on a sterically hindered fluorescent host material of tetra(o-tolyl)pyrene (TOTP) which effectively suppresses the excimer emission of its electroluminescence. Doped with DSA-Ph of matching LUMO/HOMO, TOTP was used to produce a blue device with luminance efficiency of 8.64 cd/A at 20 mA/cm² and 7.1 V with a CIE_{x,y} color coordinate of [0.15, 0.28]. The properties of selected 1,3,6,8-tetra(aryl)pyrenes were measured and compared with conventional anthracene-based materials.

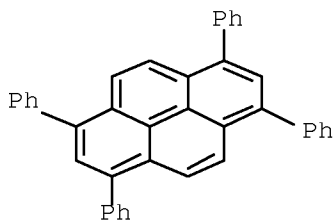
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)

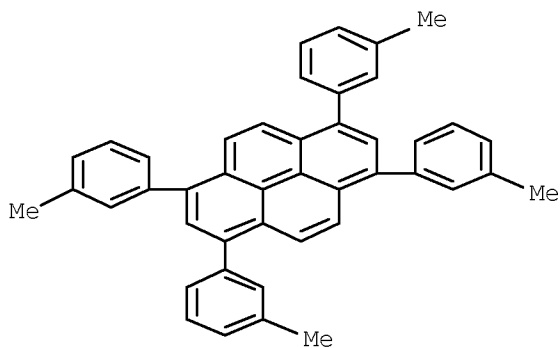


CAS Registry Number

870133-71-4 CAPLUS

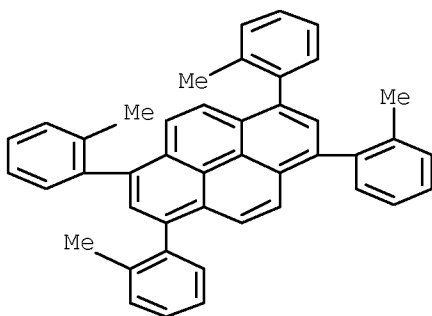
Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis(3-methylphenyl)- (CA INDEX NAME)



CAS Registry Number
870133-72-5 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis(2-methylphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

.L9 ANSWER 57 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2005-325561 CAPLUS [Full-text](#)

Document Number
142:381949

Title
Pyrene derivative, **light** emitting element, and **light** emitting device

Author/Inventor
Nomura, Ryoji; Takasu, Takako; Abe, Hiroko; Tokuda, Atsushi

Patent Assignee/Corporate Source
Semiconductor Energy Laboratory Co., Ltd., Japan

Source
U.S. Pat. Appl. Publ., 22 pp. CODEN: USXXCO

Document Type
Patent

Language
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050079385	A1	20050414	US 2004-954341	20041001
US 7232619	B2	20070619		
JP 2005126431	A	20050519	JP 2004-289684	20041001

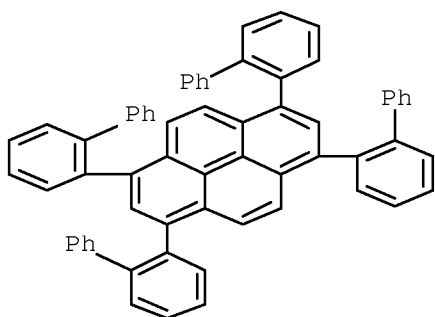
Abstract

It is an object of the present invention to provide a pyrene derivative that is unlikely to crystallize and is superior in quality in the case of forming a film. It is an object of the present invention to provide a **light**-emitting element from which stable **light** emission can be obtained for a long stretch of time by using the pyrene derivative [R1-4 = C1-6 alkyl, alkoxy, aryl, diarylamino or silyl with one or more alkyl or aryl groups]. By using vacuum deposition to deposit this material, a **light**-emitting element from which stable **light** emission can be obtained efficiently for a long stretch of time can be obtained.

Hit Structure

CAS Registry Number
723285-24-3 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetrakis([1,1'-biphenyl]-2-yl)- (CA INDEX NAME)



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD
(6 CITINGS)

.L9 ANSWER 58 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:292353 CAPLUS [Full-text](#)

Document Number

143:16108

Title

White organic light-emitting diode comprising of blue fluorescence and red phosphorescence

Author/Inventor

Qin, Dashan; Tao, Ye

Patent Assignee/Corporate Source

National Research Council of Canada, Institute for Microstructural Sciences, Ottawa, ON, K1A 0R6, Can.

Source

Applied Physics Letters (2005), 86(11), 113507/1-113507/3 CODEN: APPLAB; ISSN: 0003-6951

Document Type

Journal

Language

English

Abstract

A white organic light-emitting diode with the structure of ITO/NPB 30 nm/TCTA+2% TPP 20 nm/BCP+0.4% Ir(piq)3/20 nm/Alq3 40 nm/Mg:Ag was fabricated and characterized, where 2,5,7,10-tetra-phenylpyrene and tris(1-phenylisoquinoline) Ir (III) [Ir(piq)3] were used as a blue fluorescent dye and a red phosphorescent dye resp. The I-V characteristics of the device showed a turn-on voltage of 2.6 V. The electroluminescent spectra of the device consisted of blue fluorescent and red phosphorescent emissions. The intensity of the blue emission increased gradually relative to the red emission with increasing voltage. The emissions of the device were in the white-light region between 10 and 15 V A maximum white light luminance of 1076 cd/m2 with CIE coordinates of (x, y = 0.27, 0.24) was reached at 15 V with an efficiency of 1.35 cd/A. The white light emission is related to the simultaneous exciton formation on both sides of the TCTA/BCP interface.

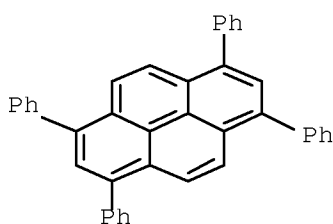
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

.L9 ANSWER 59 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:131766 CAPLUS [Full-text](#)

Document Number

142:400200

Title

Increased electrophosphorescent efficiency in organic light emitting diodes by using an exciton-collecting structure

Author/Inventor

Qin, Dashan; Tao, Ye

Patent Assignee/Corporate Source

National Research Council of Canada, Institute for Microstructural Sciences, Ottawa, ON, K1A 0R6, Can.

Source

Journal of Applied Physics (2005), 97(4), 044505/1-044505/4 CODEN: JAPIAU; ISSN: 0021-8979

Document Type

Journal

Language

English

Abstract

A phosphorescent dye, tris(1-phenylisoquinoline) Ir (III) [Ir(piq)3] doped interface of 4,4',4''-tris(carbazol-9-yl)-triphenylamine (TCTA) and 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline (BCP) was studied in organic light emitting diodes. Two devices with different emissive interfaces, TCTA+6% Ir(piq)3/BCP and TCTA+6% Ir(piq)3/BCP+1% Ir(piq)3, exhibited nearly the same red Ir(piq)3 emissions and I-V characteristics. However, the 2nd device showed higher efficiency and luminance than the 1st device over the whole voltage range. The maximum efficiency of 6.0 cd/A reached at 0.026 mA/cm2 in the 2nd device was 30% higher than that of 4.6 cd/A reached at 0.032 mA/cm2 in the 1st device. The improved performance of the 2nd device is attributed to the fact that the excitons can be formed on both sides of the TCTA/BCP interface and can be more efficiently collected with the addnl. 1% Ir(piq)3 doped in the BCP layer. Therefore, the exciton-collecting structure, doping phosphorescent dyes into both sides of the TCTA/BCP interface, is believed to be a very useful way to optimize the performance of phosphorescent organic light emitting diodes.

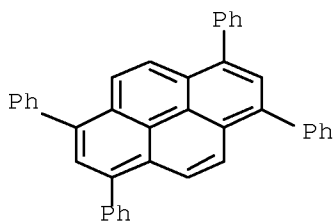
Hit Structure

CAS Registry Number

13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



.L9 ANSWER 60 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005:75901 CAPLUS [Full-text](#)

Document Number
142:186928

Title
Organic electroluminescent (EL) devices with improved electron-injection efficiency and full-color flat displays using them
Author/Inventor
Nakayama, Masaya; Kinoshita, Shoji; Kodama, Atsushi
Patent Assignee/Corporate Source
Fujitsu Ltd., Japan
Source
Jpn. Kokai Tokkyo Koho, 20 pp. CODEN: JKXXAF
Document Type
Patent
Language
Japanese
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005026210	A	20050127	JP 2004-85516	20040323

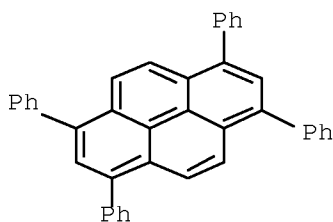
Abstract

The devices have hole-transporting layers, **light-emitting** layers, and electron-transporting layers in this order between anodes and cathodes, satisfying that $[Ea(emi) - Ea(htl)] \geq 0.15$ eV and $[Ea(eti) - Ea(emi)] \leq 0.15$ eV $Ea(emi)$ $[Ea(htl)$, $Ea(eti)$ = electron affinity of **light-emitting** layer, hole-transporting layer, and electron-transporting layer, resp.]. The displays, using the devices as blue-emitting sources, show improved brightness.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

L9 ANSWER 61 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2004:756795 CAPLUS [Full-text](#)
Document Number
141:285537

Title
Organic electroluminescent device employing a derivative of 9,10-diaminoanthracene as a green luminescent dopant
Author/Inventor
Seo, Jeong Dae; Kim, Hee Jung; Lee, Kyung Hoon; Oh, Hyoung Yun; Kim, Myung Seep; Park, Chun Gun
Patent Assignee/Corporate Source
LG Electronics Inc., S. Korea
Source
PCT Int. Appl., 35 pp. CODEN: PIXXD2
Document Type
Patent
Language
English
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004078872	A2	20040916	WO 2004-KR472	20040305
WO 2004078872	A3	20041216		
KR 2004079803	A	20040916	KR 2003-20468	20030401
US 20040209118	A1	20041021	US 2004-792130	20040304
EP 1603990	A2	20051214	EP 2004-717900	20040305
CN 1771313	A	20060510	CN 2004-80009251	20040305
JP 2006519477	T	20060824	JP 2006-500655	20040305
JP 4129990	B2	20080806		
JP 2008172229	A	20080724	JP 2008-48	20080104

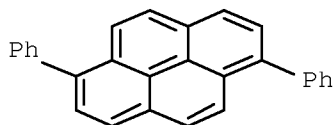
Abstract

Organic electroluminescent devices (OLEDs) are described which comprise a substrate; a first and second electrodes formed on the substrate; and a **light-emitting** layer formed between the first electrode and the second electrode, with the **light-emitting** layer having a plurality of materials and being a green luminescent material using a dopant with chemical formula I where at least one of A1 and A2 is selected from a substituted or non-substituted aromatic group, a heterocyclic group, an aliphatic group and hydrogen. The materials forming the **light -emitting** layer together with the material of chemical formula (I) may have the formula B1-X-B2 where X is selected from naphthalene, fluorine, anthracene, phenanthrene, pyrene, perylene, quinoline, and isoquinoline; and at least one of B1 and B2 is selected from aryl, alkylaryl, alkoxyaryl, arylaminoaryl, alkylamino, and arylallyl.

Hit Structure

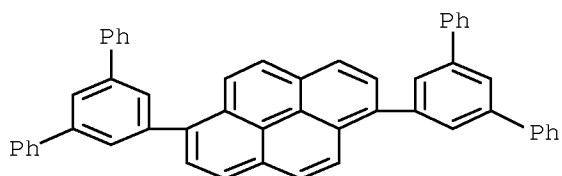
CAS Registry Number
55009-75-1 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-diphenyl- (CA INDEX NAME)



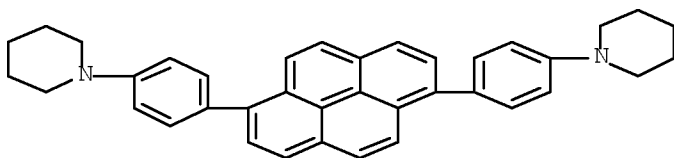
CAS Registry Number
722498-68-2 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis([1,1':3',1''-terphenyl]-5'-yl)- (9CI) (CA INDEX NAME)



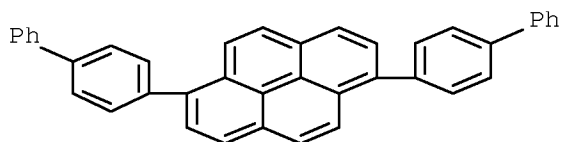
CAS Registry Number
722498-70-6 CAPLUS

Chemical or Trade Name
Piperidine, 1,1'-(1,6-pyrenediyl-di-4,1-phenylene)bis- (9CI) (CA INDEX NAME)



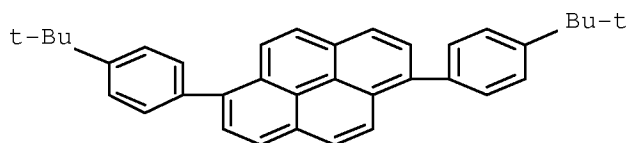
CAS Registry Number
722498-71-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



CAS Registry Number
722498-73-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

_L9 ANSWER 62 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2004:568210 CAPLUS [Full-text](#)

Document Number
141:131023

Title
Organic electroluminescent devices employing blue-emitting dopants based on amine derivatives of pyrene

Author/Inventor
Seo, Jeong Dae; Lee, Kyung Hoon; Kim, Hee Jung; Park, Chun Gun; Oh, Hyoung Yun

Patent Assignee/Corporate Source
Lg Electronics Inc., S. Korea

Source
Eur. Pat. Appl., 43 pp. CODEN: EPXXDW

Document Type
Patent

Language
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1437395	A2	20040714	EP 2003-29661	20031223
EP 1437395	A3	20050831		
KR 2004057862	A	20040702	KR 2003-20465	20030401
US 20040137270	A1	20040715	US 2003-743778	20031224
JP 2004204238	A	20040722	JP 2003-428297	20031224
JP 3926791	B2	20070606		
CN 1535089	A	20041006	CN 2003-10124405	20031224
CN 100481574	C	20090422		
JP 2007027779	A	20070201	JP 2006-245563	20060911

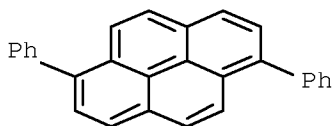
Abstract

Organic electroluminescent devices are described which comprise a substrate; a first and second electrodes formed on the substrate; an emitting layer formed between the first electrode and the second electrode, the emitting layer having a plurality of materials one of which being a blue-emitting dopant with general formula (I), where at least one of A1 and A2 is selected from a substituted or non-substituted aromatic group, a heterocyclic group, an aliphatic group and hydrogen. The materials forming the emitting layer together with the material of I may have a chemical formula B1-X-B2 where X is selected from a group consisting of naphthalene, anthracene, phenanthrene, pyrene, perylene, and quinoline and at least 1 of the B1 and B2 is selected from a group consisting of aryl, alkylaryl, alkoxyaryl, arylaminoaryl and alkylaminoaryl.

Hit Structure

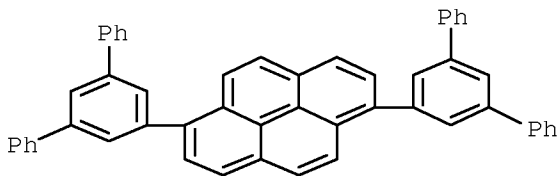
CAS Registry Number
55009-75-1 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-diphenyl- (CA INDEX NAME)



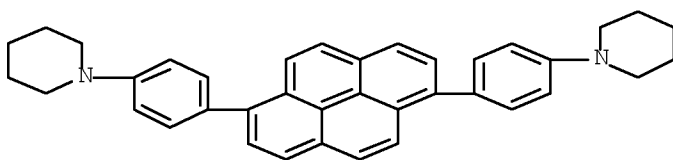
CAS Registry Number
722498-68-2 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis([1,1':3',1''-terphenyl]-5'-yl)- (9CI) (CA INDEX NAME)



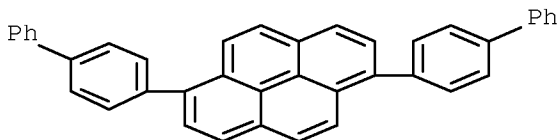
CAS Registry Number
722498-70-6 CAPLUS

Chemical or Trade Name
Piperidine, 1,1'-(1,6-pyrenediyl-di-4,1-phenylene)bis- (9CI) (CA INDEX NAME)



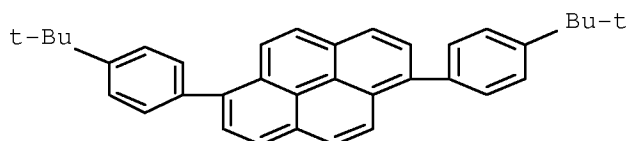
CAS Registry Number
722498-71-7 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



CAS Registry Number
722498-73-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,6-bis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD
(27 CITINGS)

L9 ANSWER 63 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2004:37438 CAPLUS [Full-text](#)

Document Number

140:102135

Title

Organic electroluminescent devices and displays with pyrene-containing vinyl polymer layers

Author/Inventor

Ebisawa, Akira; Shinkai, Masahiro

Patent Assignee/Corporate Source

TDK Corporation, Japan

Source

Jpn. Kokai Tokkyo Koho, 36 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004014325	A	20040115	JP 2002-166962	20020607
JP 4068896	B2	20080326		

Abstract

The devices comprise organic layers containing polymers of vinyl monomers I (X1-10 = H, alkyl, alkoxy, aryl, aryloxy, heterocyclic group, amino, cyano, halogen; ≥2 of X1-10 may form rings). Organic EL displays equipped with a panel containing multiple nos. of the devices arranged in 2-dimensional arrays are also claimed. Displays giving clear images with high luminance are obtained.

Hit Structure

CAS Registry Number
643753-72-4 CAPLUS

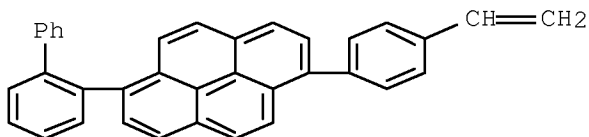
Chemical or Trade Name
Benzenamine, 4-ethenyl-N,N-diphenyl-, polymer with
1-[1,1'-biphenyl]-2-yl-6-(4-ethenylphenyl)pyrene (9CI) (CA INDEX NAME)

CM

1

CEN 643753-68-8

CMF C36 H24

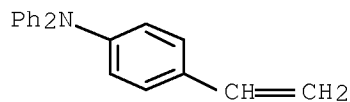


CM

2

CEN 25069-74-3

CMF C20 H17 N

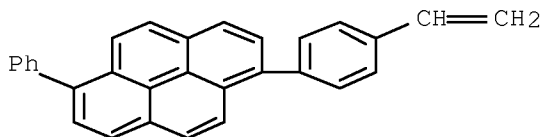


CAS Registry Number
643753-70-2 CAPLUS

Chemical or Trade Name
Pyrene, 1-(4-ethenylphenyl)-6-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM
1

CRN 643753-67-7
CMF C30 H20

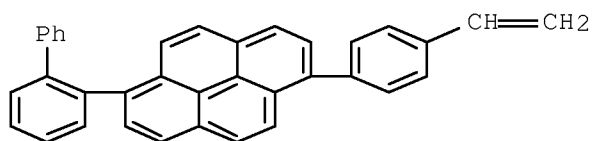


CAS Registry Number
643753-71-3 CAPLUS

Chemical or Trade Name
Pyrene, 1-[1,1'-biphenyl]-2-yl-6-(4-ethenylphenyl)-, homopolymer (9CI)
(CA INDEX NAME)

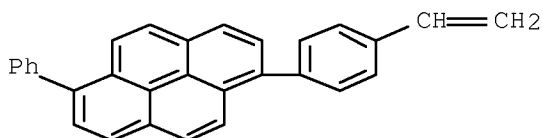
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CRN 643753-68-8
CMF C36 H24



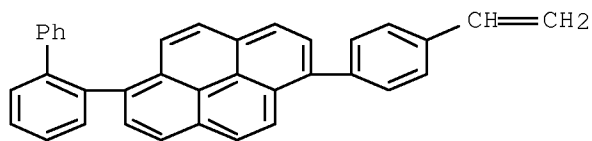
CAS Registry Number
643753-67-7 CAPLUS

Chemical or Trade Name
Pyrene, 1-(4-ethenylphenyl)-6-phenyl- (CA INDEX NAME)



CAS Registry Number
643753-68-8 CAPLUS

Chemical or Trade Name
Pyrene, 1-[1,1'-biphenyl]-2-yl-6-(4-ethenylphenyl)- (CA INDEX NAME)



L9 ANSWER 64 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2003:656268 CAPLUS [Full text](#)

Document Number

139:204830

Title

Organic electroluminescent elements containing organic thin layer comprising 1,3,6,8-tetraphenylpyrene derivative and a carbazole derivative, and organic electroluminescent displays employing the elements

Author/Inventor

Kinoshita, Masaru; Sotoyama, Wataru; Kodama, Jun; Okamoto, Yasuo

Patent Assignee/Corporate Source

Fujitsu Limited, Japan; Fuji Photo Film., Ltd.

Source

U.S. Pat. Appl. Publ., 19 pp. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20030157365	A1	20030821	US 2002-278866	20021024
US 7060370	B2	20060613		
JP 2003234190	A	20030822	JP 2002-29335	20020206
JP 3841695	B2	20061101		
KR 918548	B1	20090921	KR 2002-66343	20021030

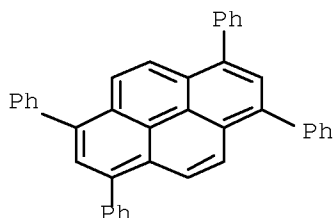
Abstract

Organic electroluminescent elements and organic electroluminescent displays employing the elements are described in which the electroluminescent elements comprise an organic thin film layer which contains a **light** -emitting layer between a pos. electrode and a neg. electrode, where a layer in the organic thin film layer comprises a 1,3,6,8-tetraphenylpyrene compound expressed by formula I, and a carbazole derivative expressed by formula II, in which R1 to R6 may be identical or different, and may be 1 of a H and a substituent group, Ar represents an aromatic group or heterocyclic group, and n represents an integer.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)

L9 ANSWER 65 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number
2002:867325 CAPLUS [Full-text](#)

Document Number
137:377245

Title
Organic electroluminescent device containing aromatic condensed ring compound

Author/Inventor
Suzuki, Koichi; Senoo, Akihiro; Tanabe, Hiroshi

Patent Assignee/Corporate Source
Canon Inc., Japan

Source
Jpn. Kokai Tokkyo Koho, 50 pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002329580	A	20021115	JP 2002-36804	20020214
JP 3870102	B2	20070117		
US 20020177009	A1	20021128	US 2002-77800	20020220
US 6830829	B2	20041214		
US 20050048318	A1	20050303	US 2004-940734	20040915
US 6994922	B2	20060207		
JP 2007013199	A	20070118	JP 2006-230669	20060828

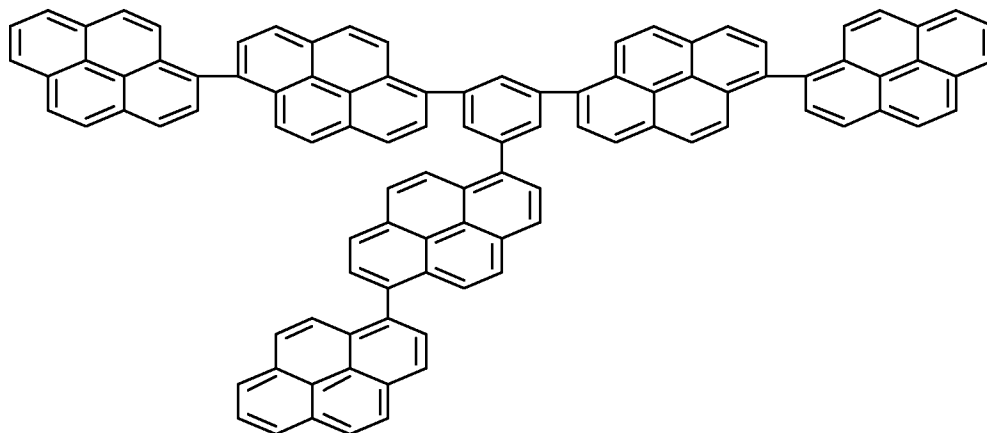
Abstract

The electroluminescent device has >1 organic layer containing aromatic condensed ring compound a benzene substituted with R1-4 and Ar1-2 (I), a benzene substituted with R5-7 and Ar3-5 (II), or a benzene substituted with R8-9 and Ar6-9 (III) [R1-R9 = H, alkyl, (substituted)aralkyl, (substituted)aryl, (substituted)heterocycle, (substituted)amino, cyano; Ar1-Ar9 = (substituted)aromatic condensed ring, (substituted)condensed heterocycle, optionally linked via phenylene], preferably claimed compds. II (R5-R7 = H, Ar3-Ar5 = LH at 1,3,5-positions, L = 9,9-dimethylfluorene-2,7-diyl), II (R5-R7 = H, Ar3-Ar5 = L2H at 1,3,5-positions), III (R8 = R9 = H, Ar6-Ar9 = LH at 1,2,4,5-positions), or III (R8 = R9 = H, Ar6-Ar9 = L2H at 1,2,4,5-positions), as electron-transporting or **light**-emitting layers between a cathode and an anode. The organic layer in the device is useful as an electron-transporting layer, an emitting layer, and a hole/exciton-blocking layer and the device shows high emission, low driving voltage, and improved durability.

Hit Structure

CAS Registry Number
475460-99-2 CAPLUS

Chemical or Trade Name
1,1'-Bipyrene, 6,6'',6'''-(1,3,5-benzenetriyl)tris- (CA INDEX NAME)



OS.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS
RECORD (22 CITINGS)

L9 ANSWER 66 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

1994:322420 CAPLUS [Full-text](#)

Document Number

120:322420

Title

The Influence of Planarity and Rigidity on the Absorption and Fluorescence Parameters and Intersystem Crossing Rate Constant in Aromatic Molecules

Author/Inventor

Nijegorodov, N. I.; Downey, W. S.

Patent Assignee/Corporate Source

Physics Department, University of Botswana, Gaborone, Botswana

Source

Journal of Physical Chemistry (1994), 98(22), 5639-43 CODEN: JPCHAX; ISSN: 0022-3654

Document Type

Journal

Language

English

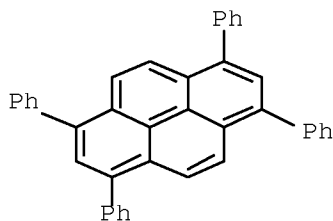
Abstract

Fluorescence properties of 23 specially chosen aromatic mols., different in degrees of planarity and rigidity but family-related in π -structure, are exptl. studied and analyzed. The quantum yields of fluorescence, γ , and decay times, τ , of deaerated and nondeaerated cyclohexane solns. are measured. The oscillator strengths, f_e , the fluorescence rate consts., K_f , natural lifetimes, τ_0T , and intersystem crossing rate consts., K_{st} , are calculated. Investigations showed differences in behavior of fluorescence parameters from the nonplanar mol. to the planar and more rigid type in the following ways: the values of symmetry line wavenumber, ν_{00} (frequency of $S_0 \rightarrow S_1$ $\pi\pi^*$ transition), and Stokes shift, $\Delta\nu_{st}$, decrease. The oscillator strength, with consequences for the fluorescence rate constant, normally decreases. The changes in the quantum yield of fluorescence depend upon changes in the K_f and K_{st} values. Furthermore, the intersystem crossing rate constant generally decreases, but there are some important exceptions. For example, the K_{st} value of the nonplanar mol. (9,10-diphenylanthracene) is less than the K_{st} value of the planar and more rigid mol. (anthracene). The results obtained are important for further understanding of the influence of structural factors in aromatic mols. on the intramol. transformation of light energy absorbed and can be useful in the quest for effective fluorescent dyes for use in dye-laser technol.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 77 THERE ARE 77 CAPLUS RECORDS THAT CITE THIS RECORD (78 CITINGS)

L9 ANSWER 67 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

1977:508514 CAPLUS [Full-text](#)

Document Number

87:108514

Title

Electrogenerated chemiluminescence. 30. Electrochemical oxidation of oxalate ion in the presence of luminescers in acetonitrile solutions

Author/Inventor

Chang, Ming-Ming; Saji, Tetsuo; Bard, Allen J.

Patent Assignee/Corporate Source

Dep. Chem., Univ. Texas, Austin, TX, USA

Source

Journal of the American Chemical Society (1977), 99(16), 5399-403 CODEN: JACSAT; ISSN: 0002-7863

Document Type

Journal

Language

English

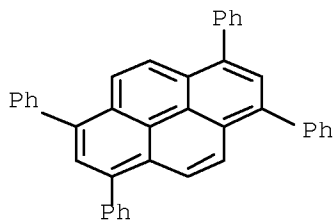
Abstract

The electrochem. oxidation of oxalate at a Pt electrode in MeCN solution, as studied by cyclic and rotating-ring disk voltammetry and controlled potential coulometry, shows an irreversible 2-electron oxidation at approx. 0.3 V vs. SCE to CO_2 with no intermediates detectable by these techniques. The oxidation of oxalate in the presence of several fluorescers (such as rubrene, 9,10-diphenylanthracene, and the bipyridyl chelates of Ru(II) and Os(II)) does not produce light, but emission characteristics of the fluorescer occur during the simultaneous oxidation of the additive and oxalate. Studies of the conditions for emission in the presence of thianthrene and naphthalene lead to a mechanism for the oxidation of oxalate and the excitation process based on oxidation of oxalate to $C_2O_4^{\cdot-}$, which undergoes rapid decomposition to CO_2 and $CO_2^{\cdot-}$. The $CO_2^{\cdot-}$ can transfer an electron to the additive mol. to produce a radical anion, which can then undergo an electrochemiluminescence annihilation reaction with the electrogenerated radical cation.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 53 THERE ARE 53 CAPLUS RECORDS THAT CITE THIS RECORD (53 CITINGS)

Accession Number

1938:906 CAPLUS [Full-text](#)

Document Number

32:906

Title

Pyrene and its derivatives

Author/Inventor

Vollmann, Heinrich; Becker, Hans; Corell, Martin; Streeck, Hans; Langbein, G.

Source

Justus Liebig's Annalen der Chemie (1937), 531, 1-159 CODEN: JLABCF; ISSN: 0075-4617

Document Type

Journal

Language

Unavailable

Abstract

This article is a comprehensive review of the chemical of pyrene (I) and its derivs. The Richter system of numbering the C atoms is used. Oxidation of I with aqueous H₂SO₄ and K₂Cr₂O₇ gives 90% of pyrene-3,8- (II) and -3, 10-quinones (III) in about the ratio of 1:2. While II may be separated directly from the oxidation mixture (crystallization successively from AcOH, PhCl and PhNO₂), it is best obtained through reduction to the dihydroxyppyrenes (IV) and reoxidn. of the difficultly soluble (dilute EtOH) portion to II. It also results in 80% yield by catalytic reduction of 2,5,7,10-tetrachloropyrenequinone (with Ni) in 6% NaOH at 50 atmospheric and 130° for 90 min., IV being an intermediate product. The purification of III is difficult, owing to its greater solubility and to the presence of other oxidation products; the crude IV, after separation of the 3,8-isomer, is transformed into the di-Ac derivative, which is then saponified and oxidized to II. 8-bromopyrene, from PhNO₂, m. 309°; III, dark red, from AcOH, m. 270°. On further oxidation, both II and III yield first 1,8-naphthendione-4,5-dicarboxylic acid (V) (the pyrenic acid of Bamteiger and Philip [Ann. 240, 107(1887)]), purified through the anhydride, golden yellow, m. 174°, and finally naphthalene-1,4,5,8-tetracarboxylic acid. Dry distillation of the Ba salt of V yields the "pyrene ketone" of B. and P., which is identical with 1,8-naphthendione (German pat. 283,066 (C. A. 9, 2559); Cook and Hewitt (C. A. 28, 3413.3). The structure of II was definitely established by its preparation from 3,8-dibenzoylpyrene. II and III form bright yellow vats, with only slight affinities for vegetable and animal fibers. I (101 g.) in 1l. CCl₄, treated at 20-30° with 67 g. SO₂Cl₂ in 200 cc. CCl₄, gives 80 g. of the 3-Cl derivative, m. 119°. I and Cl₂ in C₂H₂Cl₄ at 80° give, after several hrs., 90% of 3,5,8,10-tetrachloropyrene (VI), yellow, m. 365°; this also results in 36% yield from 38 g. tetranitropyrene and PCl₅ in C₆H₅Cl₃ on refluxing 5 h. Br₂ and I in PhNO₂, heated 2 h. at 120° and 2 h. at 120-30°, give 94-6% of the 3,5,8,10-tetra-Br derivative (VII), pale yellow, m. 402°. The action of 20% oleum at 85° upon 34 g. VI gives 29.7 g. of crude 5,10-dichloropyrene-3,8-quinone (VIII), purified by crystallization from AcOH and sublimation at 400° (final yield, 5 g.), while catalytic dehalogenation of 2,5,7,10-tetrachloropyrene-3,8-quinone (VIIIa) gives 80% of pure VIII, orange-yellow, m. 278°; the hydrosulfite vat is yellow. When 170 g. VI are stirred with 1100 cc. 20% oleum at 80° for 40 min., then treated with 260 cc. H₂SO₄ (60° B. act. e.) and the resulting 98% H₂SO₄ solution heated 0.5 h. at 200°, there results 94% of 3,5,8,10-tetraoxo-3,4,5,8,9,10-hexahydroxyrene (IX), which is the naphthalene-1,8,4,5-diindandione of Freund and Fleischer (C. A. 8, 663); IX also results in 95% yield by refluxing 180 g. X in 1.1. 10% NaOH and 200 g. Zn for 5 h.; it is purified by crystallization of the sulfate from 80% H₂SO₄ and decomposition with H₂O. VII (200 g.) in 2 l. concentrated H₂SO₄, warmed to 140-50° for 4 h., gives 93% of 4,9-dibromo-3,5,8,10-tetraoxo-3,4,5,8,9,10-hexahydroxyrene (X), dark red; solution in PhNO₂ is accompanied by loss of HBr. Addition of NaOH to an aqueous suspension of X yields a brownish gray Na salt; hydrosulfite gives a light yellow vat, from which HCl ppts. 4, 9-dibromo-3,5,8,10-tetrahydroxyrene. X with 40 parts Ac₂O (and a trace of concentrated H₂SO₄) gives an orange-red product, probably 3,8-diacetoxy-4,9-dibromopyrene-5,10-quinone. A fine suspension of 10 g. IX in 100 cc. PhNHMe₂ and 20 g. BzCl, on gentle boiling, give 12 g. of the tetra-Bz derivative (XI), pale yellow, m. 340° (decomposition), of 3,5,8,10-tetrahydroxyrene, nearly colorless, which is fairly stable in air and may be recrystd. from C₆H₅Cl₃ containing a little PhNHMe₂; it also results by acidifying a vat of IX in excess hydrosulfite. Similarly, X yields the 4,9-di-Br derivative of XI, pale yellow, m. above 370° (decomposition). IX (33 g.) and 20 g. NaNO₂ in 1 l. 2% NaOH, treated with 1 l. 6% H₂SO₄ at 30° give 35.8 g. of the 4,9-dinitroso derivative (XII) of IX, light yellowish gray, decomp. above 200°; dilute NaOH gives a very difficultly soluble Na salt; hydrosulfite yields a clear brownish yellow vat, changing on shaking with air to red-violet and finally to a blue-violet. IX (40 g.) and 200 cc. HNO₃ (d. 1.4), boiled for a short time, give 30 g. of the 4,9-di-NO₂ derivative, (XIII) of IX, golden yellow; this also results in 35 g. yield from 44 g. XII and 150 cc. HNO₃ at 40-50° for 20 min. Hydrosulfite reduction of XIII gives the 4,9-di-NH₂ derivative of IX, which yields a Na salt giving a violet-blue aqueous solution; the concentrated H₂SO₄ solution is brownish orange. IX (13 g.) and Cl in dilute HCl give 16.6 g. (crude yield) of the 4,9,9-tetra-Cl derivative, light brown, decomp. above 340°; NaOH in the cold splits off CHCl₃ and further oxidation with NaOCl gives a good yield of 1,4,5,8-C₁₀H₄(CO₂H)₄. The 4,4,9,9-tetra-Br analog, from X, is golden yellow and decomp. above 250°. Exhaustive chlorination of I in C₆H₅Cl₃ at 100-10° gives 60-4% of 1,2,3,5,6,7-8,10-octachloro-1,2,6,7-tetrahydroxyrene (XIV), m. 292° (evolution of HCl); heating XIV at 400° gives 95% of hexachloropyrene (XV), yellow, m. 383° (probably a mixture of 2 isomers); this also results in 100% yield by refluxing XIV with alkali in EtOH; it is insol. in cold concentrated H₂SO₄; 20% oleum gives a rose to violet solution; warming the solution splits off a part of the Cl. VIIIA (50 g.) and 700 cc. concentrated H₂SO₄, heated 10 min. at 100°, treated with 75 cc. HNO₃ (d. 1.5) and heated at 170°, give 30 g. of the dianhydride (XVI), m. 385-90°; of 2,7,1,4,5,8-C₁₂C₁₀H₂(CO₂H)₄. The mixed XV (41 g.), warmed with 400 cc. of 20% oleum at 80-90° for 1 h., then treated with 240 cc. H₂SO₄ (60° B. act. e.) and then dropwise with 60 cc. HNO₃ (d. 1.5), gives 23.5 g. of a mixture of XVI and the 2,7-isomer (XVII); 100 g. of the mixture yields 30 g. XVI and 30 g. XVII, m. 296°; XVII results in 17-g. yield by alkaline KMnO₄ oxidation of 3,8-dichloroacenaphthene-5,6-dicarboxylic anhydride, m. 274° [prepared by chlorination of acenaphthalic anhydride (German pat. 557,665 (C. A. 27, 608) English pat. 393, 158 (C. A. 27, 5968)] in CISO₃H at 30° for 1 h. Warming XVII with PhNH₂ gives a carmine-red solution, while XVI gives a pure blue solution. From the C₆H₅Cl₃ mother liquor of XIV (especially after it had been used repeatedly for the preparation of XIV) there was isolated 1,2,3,5,6,7,8,10-octachloropyrene (XVIII), yellow, m. 238°. Chlorination of 75 g. of the mixed XV in CISO₃H (I as catalyst) yields 75 g. of perchlorohydroxyrene, C₁₆H₂Cl₁₄, decomp. 260° (gas evolution) and forms decachloropyrene (XIX), C₁₆HCl₁₀, yellow, m. 264°. Oxidation of XIX in H₂SO₄ with HNO₃ (d. 1.5) gives 25% of 2,3,6,7-tetrachloronaphthalenetetracarboxylic dianhydride, pale yellow, m. above 400°; hydrosulfite gives a deep green solution XV (1 kg.) and HNO₃ (d. 1.5) at 5° give 330-70 g. of VIIIA, red-orange, m. 320-5°, oxidized by acid or alkaline agents to 2,6,1,4,5,8-C₁₂C₁₀H₂(CO₂H)₄. XVIII (50 g.) and HNO₃ gives 18 g. of 1,2,5,6,7,10-hexachloropyrene-3,8-quinone, red-orange, m. 282°. XIX (20 g.) yields 7 g. 1,2,4,5,6,7,9,10 -octachloropyrene-3,8-quinone, red-orange, m. 304°. II and Cl in C₆H₅Cl₃ at 100° give 4,5,9,10-tetrachloro -4,5,9,10-tetrahydroxyrene-3,8-quinone, yellow, which loses HCl on heating at 250° or on distilling with steam from a suitable solvent, to give 4,9-dichloropyrene-3,8-quinone (XX), red-brown, does not m. 500°; the Cl is non-reactive toward boiling PhNH₂ or p-MeC₆H₄NH₂. II and 1 mol. SO₂Cl₂ in PhNO₂ at 100° give about 50% of 5-chloropyrene-3,8-quinone, reddish brown, m. 248°, and about 15-20% XX. Chlorination of II in C₆H₅Cl₃ at 150-70° yields the 4,5,9,10-tetra-Cl derivative, red-orange, m. 377°. HNO₃ in H₂SO₄ gives 1,4,5,8-C₁₀H₄(CO₂H)₄. 3,8-Dimethoxyppyrene (XXI), m. 245°, results from the crude 3,8-dihydroxyppyrene and a slight excess of Me₂SO₄ in dilute EtOH-NaOH; concentrated H₂SO₄ gives a yellow solution; the EtOH solution is blue fluorescence. The 5,10-di-Cl derivative of XXI, yellowish green, m. 279°, results from 1 mol. XXI in C₆H₅Cl₃; 2 mols. CaO₃ and 2.25 mols. SO₂Cl₂ after 1 h. at 150° or by reduction of 5,10-dichloropyrene-3,8-quinone with PhNHNH₂ in C₆H₅Cl₃ and methylation of the hydroquinone (golden yellow, m. above 350°) in aqueous Me₂CO with alkali and Me₂SO₄. The action of 1 mol. SO₂Cl₂ upon XXI in 10 parts PhCl and 1 mol. dioxane gives the 5-Cl derivative, m. 215°; dilute organic solns. show a violet fluorescence. Reduction of XX in 20 parts C₆H₅Cl₃ with PhNHNH₂ at 130-40° gives 4,9-dichloro-3,8-dihydroxyppyrene, golden yellow, m. 274°; the di-Me ether (4,9-di-Cl derivative of XXI), m. 255°; the H₂SO₄ solution is brick red. The action of 2-4 mols. of HNO₃ in AcOH upon II gives only the 5-NO₂ derivative, red-brown, m. 335° (decomposition); it forms a green vat with an intense blue fluorescence; shaking with air gives a deep black product, which may be the 5-NH₂ derivative or a tautomer. XXI with HNO₃ in boiling AcOH gives 80% of the 5,10-di-NO₂ derivative, red needles with bronze luster, m. 357° (decomposition); organic solns. show a deep green fluorescence; catalytic reduction with PhNHNH₂ in C₆H₅Cl₃ yields the di-NH₂ derivative, greenish yellow, m. 320°; it is easily oxidized in the air; the red EtOH solution shows a blue fluorescence. With NaNO₂ in PhCl-AcOH XXI gives the 5-NO₂ derivative, red, m. 237°; further nitration in AcOH gives the di-NO₂ derivative; catalytic reduction yields the 5-NH₂ 2 derivative, light yellow, m. 255°; Ac derivative, m. 264°. 1,3,6,8-Tetrachloropyrene-5,10-quinone (XXII) (37 g.) and PhNH₂, stirred 50° for 1 h., give about 30 g. of the 1-anilino derivative, dark violet, m. 269-70°; the concentrated H₂SO₄ solution is olive-green, changing to red-brown; the golden yellow vat dyes cotton a bluish green tint. XXII (37 g.), 25 g. AcONa.3H₂O and 400 cc. PhNH₂, heated 2 h. at 130-40°, give 40 g. of the 1,6-dianilino derivative (XXIII), dark bluish green, m. 335°; the yellow vat dyes cotton a clear yellowish green; the concentrated H₂SO₄ solution is bluish green, changing to red-brown. Boiling XXII in PhNH₂ (with a little Cu) for 1 h. gives 1,3,6,8-tetranilinoipyrene-5,10-quinone, dark steel-blue leaflets, m. 390-5°; the concentrated H₂SO₄ solution is a pure reddish blue. Heating 18.5 g. VIIIA with 24 g. AcOK in 200 cc. PhNO₂ for 15 min. gives 63% (11.2 g.) of 1-hydroxy-3,6,8-trichloropyrene-5,10-quinone, red-brown, m. 322° (decomposition); on shaking the yellow vat with air the violet Na salt ppts.; the concentrated H₂SO₄ solution is yellow-green (thin layer) or blue-green (thick layer) with a red dichroism. Passing NH₃ into a solution of 18.5 g. of XXII until the orange color changes to carmine gives 16.4 g. of the 1-NH₂ derivative, violet needles with metallic luster, m. above 350° (decomposition); the vat is brownish yellow with a violet bloom; the concentrated H₂SO₄ solution is greenish blue or olive-green (thin and thick layers); Bz compound, brown with metallic luster, m. 325°. XXII (37 g.), 20 g. p-MeC₆H₄NH₂ and 10 g. AcONa in 500 cc. PhCl, boiled 3 h., give 36 g. of the 1-p-toluidine derivative, dark violet, m. 297°; warming with 60° B. act. e. H₂SO₄ at 100° gives the carbazole derivative, C₂₃H₁₀O₂N₂Cl₂, dark brown leaflets, soluble in concentrated H₂SO₄ with a red-violet color. XXIII and AlCl₃ in C₆H₆ give a dicarbazole derivative, C₂₈H₁₂O₂N₂Cl₂, green, m. 338°; the bath is golden yellow with a blue and then a green bloom and dyes cotton a green tone; the olive-green H₂SO₄ solution changes to brownish yellow and then green on warming. The addition of 300 g. 2,6-C₁₀H₆(O₂Bz)₂ to 2.4 kg. AlCl₃-NaCl melt at 140° and heating at 170° for 0.75 h. give 298 g. 1,6-dihydroxy-3,4,8,9-dibenzopyrene-5,10-quinone (XXIV), from which sublimation at 450-500° gives 129 g. (35%) of pure product, brown-red with metallic luster, m. above 450°; the H₂SO₄ solution is carmine-red; 18 g. with 20 g. p-MeC₆H₄SO₃Me give 13.7 g. of the di-Me ether (XXV), brownish red, m. 360°; it does not form a vat; the concentrated H₂SO₄ solution is carmine-red. On boiling 36.5 g. XXIV and 120 g. PCl₅ in 200 cc. PhCl for 0.5 h., there results 25 g. of a keto chloride (containing about 3 atoms Cl and 1 of O) which, on saponification with concentrated H₂SO₄ at 100° (5 min.) and addition of H₂O (temperature 140°), gives 20 g. 1,6-dichloro-3,4,8,9-dibenzopyrene-5,10-quinone, (XXVI), golden yellow, m. above 400°; the concentrated H₂SO₄ solution is reddish violet and the alkaline vat is red. On heating XXIV with more than twice the amount of PCl₅, the yellow keto chloride goes into solution and there results 1,5,6,10-tetrachloro-3,4,8,9-dibenzopyrene, orange-brown, m. 336°; concentrated H₂SO₄ at 130-50° gives XXVI. Boiling XXV or XXVI with p-MeC₆H₄NH₂ gives the 1,6-di-p-toluidino derivative, dark violet, m. 379-80°; the concentrated H₂SO₄ solution is brownish red; a H₂O-soluble sulfonic acid dyes cotton a clear yellowish green. The dianhydride of 2,6,1,4,5,8-C₁₂C₁₀H₂(CO₂H)₄ (8.5 g.) in 100 cc. AcOH and 5 g. PhNH₂, on warming, give 2,6-dichloronaphthalene-1,4,5,8-tetracarboxylic diphenylimide (XXVII), nearly colorless, m. 400°; concentrated H₂SO₄ gives a pale yellow color, the alkaline hydrosulfite solution is bluish green with a deep red fluorescence; heating the dianhydride in PhNH₂ alone gives 90% of the 2,6-dianilino derivative of XXVII, dark blue with metallic luster, m. 400°; the concentrated H₂SO₄ solution is reddish blue and on standing gives a H₂O-soluble sulfonic acid which dyes wool clear blue. I (650 g.) in 3.2 l. CCl₄, treated with 400 g. CISO₃H at 0-5° for 6 h., gives 550 g. light yellow pyrene-3-sulfonic acid, the sulfonate, pale yellow, m. 102°; Me ether, m. 93°. Nitration of I in AcOH with HNO₃ (d. 1.4) at 50° gives 115 g. of the 3-NO₂ derivative (XXVIII), golden yellow, m. 159-4°; Dropping 135 g. POCl₃ into a mixture of 135 g. formylmethylaniline and 100 cc. o-C₆H₄Cl₂ at 25° during 2 h. and then adding 100 g. I and again stirring at 90-95° for 2 h. give 61 g. of pyrene-3-aldehyde (XXVIIIa), yellow, m. 126°; phenylhydrazones, yellow, m. 201-2°. I with Ac₂O and AcOH (ZnCl₂) gives 3-acetylpyrene (XXIX), yellow, m. 90°; BzCl in C₆H₆ gives the 3-Bz derivative (XXX), yellow, m. 128°; oxime, pale yellow, m. 220°; rearrangement with PCl₅ in C₆H₆ gives pyrene-3-carboxyanilide, pale yellow, m. 255°. Reduction of 130 g. of XXVII with NaSH in dilute EtOH gives 92 g. of 3-aminopyrene, light yellow, m. 117-18°; concentrated H₂SO₄ gives a colorless solution with a violet-blue fluorescence; Ac derivative, m. 260°. 3-Chloropyrene (236 g.) and 100 g. CuCN, mixed at 150° and then heated during 0.75 h. to 300-40°; give, after sublimation at 300-50°, 170 g. pyrene-3-nitrile (XXXI), pale yellow, m. 153°; the same product results through the Sandmeyer reaction. Oxidation of 120 g. of XXIX in boiling C₅H₅N with hypochlorite (14% active Cl) for 0.5 h. gives 90 g. pyrene-3-carboxylic acid (XXXII), yellow, m. 274°; hydrolysis of XXXI with NaOH in an iron autoclave at 180° gives a quant. yield of XXXII; the acid chloride, yellow, m. 152°; the anilide, pale yellow, m. 255°. Addition of 50 g. XXX to a melt of 500 g. AlCl₃-NaCl at 120° and heating 10 min. at 160-5° gives 45-8 g. crude and, after sublimation at 350-400°, 17 g. of 2,3(CO)benzoylenepylene (XXXIII), light golden yellow, m. 242°; the KOH melt of 31.5 g. of XXXIII (245° for 0.25 h.) gives 15 g. of 1-phenylpyrene-o-carboxylic acid, m. 218°; concentrated H₂SO₄ regenerates XXXIII; dry distillation of the Ba salt of the acid gives 1-phenylpyrene, C₂₂H₁₄, m. 169°; the pale rose H₂SO₄ solution with cinnabar-red fluorescence changes to pale blue-green with strong blue fluorescence on warming. Reduction of 20 g. of XXVIIIa with HAN₂O₂ (8 h. at 200°, pressure about 100 atmospheric) gives 17 g. 3-methylpyrene, m. 70-1°; it also results in 3-3,5 g. yield by distillation of 5 parts XXXIV and 20 parts soda lime; picrate, brownish red, m. 211-12°; the concentrated H₂SO₄ solution is golden yellow with green fluorescence, changing to olive-green with violet fluorescence on warming. I (400 g.) and 210 g. ClCH₂CO₂H in 1 l. o-C₆H₄Cl₂, heated at 180-90° for 200 h., give 50 g. of 3-prenylacetic acid (XXIV), m. 220° (decomposition), purified through the NH₄ salt; the yellow H₂SO₄ solution has a green fluorescence; the dilute alkaline solution has a violet-blue fluorescence. Distillation of 20 g. of XXIX with 100 g. Zn gives 8 g. of 3-ethylpyrene, m. 94-5°; the concentrated H₂SO₄ solution is orange-yellow with strong green fluorescence, which changes to carmine-red with a violet-blue fluorescence on slight warming and longer standing, I (200 g.) and 250 cc. ClCH₂COCl in 2 l. CS₂ with 400 g. AlCl₃ gives 90 g. 3,8-dichloroacetylpyrene (XXV), light brownish yellow, m. 270°, and 90-100 g. of the 3,10-isomer (XXXV), light yellow, m. 202°; separated by crystallization from PhNO₂. Hypochlorite oxidation of XXXV in dilute BuOH-EtOH gives 92% of pyrene-3,8-dicarboxylic acid (XXXVI), light yellow powder, m. above 365° (decomposition); XXXVI gives the same yield of the 3,10-isomer (XXXVIII), light yellow, m. above 365° (decomposition). The acid chlorides m. 262° and 235°, resp.; α- and β-aminoanthraquinones give yellow to reddish orange vat dyes. The chloride of XXXVII (13.2 g.) and AlCl₃ in C₆H₆ give 12 g. 3,8-dibenzoylpyrene (XXXIX), yellow, m. 239°; that from XXXVIII yields the 3,10-isomer (XL), m. 165°. I (202 g.) and 400 g. AlCl₃ in 2 l. CS₂ with 280 g. BzCl give 53 g. XXXIX and 177 g. of XL. Ring closure of XXXIX with AlCl₃-NaCl at 140-60°, while a stream of O₂ is passed through the melt, gives 80% of pyranthrene (XLI). Xl gives a nearly black product, which contains about 30% of XLI, probably due to a wandering of the Bz group. Oxidation of 30 g. of XXXIX with CrO₃ in boiling AcOH gives 17.5 g. of 3,8-dibenzoylpyrene-5,10-quinone, orange-red, m. 292°; it gives a carmine-red vat; molten AlCl₃-NaCl at 140-50° (with addition of O₂) gives dihydroxypyranthrene, di-Me ether, brownish red powder. Xl gives the isomeric 3,10-dibenzoylpyrene-5,8-quinone, orange-red, m. 242°. Nitration of 100 g. I in AcOH at 90° gives 135-40 g. of a mixture of the di-NO₂ compds., from which only the 3,8-di-NO₂ derivative, light yellow, m. 309°, could be isolated. Reduction of the mixed di-NO₂ derivs. with Na₂S in dilute EtOH and separation of the sulfates gives 3,8-diaminopyrene, m. 232-3°, and the 3,10-isomer, m. 160-2°; the yield of each isomer is 22.5 g. from 100 g. crude di-NO₂ compds. The di-Ac derivs. m. 410° and darken about 350°. Resp. Nitration of 3-acetaminopyrene, catalytic reduction (Ni in EtOH at 60-70°) and crystallization from C₆H₅SH give 3-amino-8-acetaminopyrene, olive-green, m. 280° and the 10-acetamino isomer, yellow, m. 250-1°. I and HNO₃ (d. 1.5) at

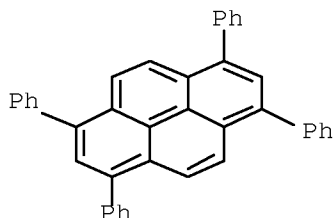
80° for 20 min. give 58% of the 3,5,8,10-tetra-NO₂ derivative, **light** yellow, m. 332°; 3,5,8,10-Tetrabromopyrene (116,4 g.) and 90 g. CuCN in 1200 g. PhCH₂CN, boiled about 1 h., give 65 g. 3,5,8,10-tetracyanopyrene (XLII), yellow, m. 450°. Hydrolysis of 80 g. XLII in 100 cc. EtOH and 2 l. 10% NaOH (10 h. at 180°) gives 94 g. pyrene-3,5,8,10-tetracarboxylic acid; tetrachloride (XLIII), yellow, m. 226°; tetra-Et ester, m. 194°. XLIII (18 g.) and AlCl₃ in CCl₄-C₆H₆ give 12 g. 3,5,8,10-tetrabenzoylpyrene, **light** yellow, m. 282°; this also results in moderate yield from l. BzCl and AlCl₃. Tetrachloropyrene (340 g.) and 700 g. AlCl₃ in 4 l. C₆H₆ give 53% of 3,5,8,10-tetrabenzoylpyrene (XLIV), pale yellow, m. 299-300°; the solution in 20% oleum is pure blue. CrO₃ oxidation of 101 g. of XLIV in AcOH gives 65 g. of 1,4,5,8-tetrabenzoylnaphthalene, m. 373°; 3-Chloropyrene (23.6 g.) in 250 cc. C₆H₆ and 50 g. AlCl₃, heated 10 min. at 50°, give 4.5 g. XLIV and 2 g. 2,3,3',2'-dipyrenylene, C₃₂H₁₆, m. 213-14°; the C₆H₆ and AcOH solns. are deep yellow and have an intense yellow-green fluorescence. l (404 g.) and 300 g. o-C₆H₄(CO)₂O in 1.5 l. C₆H₆ with 300 g. AlCl₃, heated 1 h. at 40-50°, give 560 g. of **light** yellow 3-pyrenoyl-o-benzoic acid (XLV), m. 225-6°. Heating 300 g. XLV in 1 l. l. of α-C₁₀H₇Cl with 360 g. BzCl for 1 h. gives 150 g. of 3,4-phthaloylpyrene (XLVA), orange-red, m. 254°. Addition of 40 g. l to a mixture of 100 g. C₆H₄(CO)₂O, 530 g. AlCl₃ and 110 g. NaCl and heating 1 h. at 150-60° give 5-10 g. dipthaloylpyrene, brownish orange, does not melt at 420°. Details are given of the preparation of 3,4-benzopyrene (XLVI). Distillation of 3,4,8,9-dibenzopyrene-5,10-quinone gives 3,4,8,9-dibenzopyrene, golden orange, m. 315°. Oxidation of 17 g. XLVI in 340 cc. AcOH with 22 g. CrO₃ in 44 cc. H₂O gives 12 g. of 3,4-benzopyrene-5,10-quinone, golden orange, m. 295° (3,4-benzo-5,8-diacetoxypyrene, **light** yellow, m. 242°), and the 5,8-quinone, orange-red, m. 245° (diacetate, **light** yellow, m. 204°). XLVI (10 g.) in 350 cc. AcOH and 50 g. CrO₃ in 50 cc. H₂O give 5 g. of benzanthrone-p-dicarboxylic anhydride, golden yellow, m. 364-5°. 3-Aminopyrene, 3-nitropyrene, C₃H₅(OH)₃ and concentrated H₂SO₄ give 3(N)-4-pyridinopyrene(pyrenoline), yellow, m. 157°; oxidation of 30 g. with CrO₃ in H₂O gives 22 g. of 3(N)-4-pyridinopyrene-5,10-quinone (XLVII), yellow-orange, m. 330°; the yellow-brown vat dyes cotton a greenish yellow tone. XLVII in C₅H₅N with hypochlorite gives 70% of 8-azobenzanthroneperidicarboxylic acid, yellow, m. 349°; o-C₆H₄(NH₂)₂ gives a benzimidazole derivative, orange-red; distillation of the Ba salt gives 8-azobenzanthrone, yellow, m. 159-60° (German pat. 600,626, cf. C. A. 28, 1060.2). XXVIII (14 g.), 35 g. CH₂(CO₂Et)₂ and 70 g. Ac₂O, refluxed 1.5 h., give 15.8 g. di-Et 3-pyrenalmalonate, yellow, m. 114°; 75 g. of the ester give 52 g. of the free acid (XLVIII), golden yellow, which, heated at 230°, yields 3-pyrenyl-β-acrylic acid, **light** yellow, m. 270° (80% yield). With ZnCl₂ in Ac₂O at 60° 32 g. XLVIII yields 20 g. pyrene-3,2-indenone-α-carboxylic acid (XLIX), dark violet with metallic luster, decomps. 302-3°; very characteristic of XLIX is the clear yellow-green solution in concentrated H₂SO₄, which has a deep red fluorescence. Pyrene-2(CO)-3-indenone-α-carboxylic acid (1 g.) on Zn distillation yields 0.2 g. 1,8,9-naphthanthrene (L), **light** yellow, m. 135°; it also results on distillation of 1,8,9-naphthanthrone with Zn. Oxidation of L or 1,8,9-naphth-10-anthrone with CrO₃ in AcOH gives 1,8,9-naphthanthrone-10-(naphth-1,2)-quinone, orange-red or dark red, m. 378° (decomposition); the phenazine derivative, **light** yellow, m. 352° (not sharp). The KOH melt of XLVA at 195-215° gives 50% of pyrene-4-carboxylic acid, **light** gray, m. 326°; acid chloride, yellow, m. 166°; Me ester, m. 136°; Et ester, m. 117°; hydrazide (LI), m. 230°; di-4-pyrenoylhydrazine, m. 368-9°; Ac derivative of LI, m. 290° (decomposition). LI with HNO₂ and Ac₂O yields 67% of the Ac derivative, pale yellow, m. 227-9°; of 4-aminopyrene, (LII), yellow, m. 207°. KOH fusion of 300 g. of the Na salt (LIII) of pyrene-4-sulfonic acid gives 73 g. 4-hydroxypyrene, m. 206-7°; this also results in 6.2 g. yield from 21 g. LII through the Sandmeyer reaction; it couples with diazotized aromatic amines (p-O₂NC₆H₄NH₂ gives a brownish red dye); Ac derivative, m. 114°; Me ether, m. 105-6°. 3-Aminopyrene sulfate (300 g.) in 2 l. o-C₆H₄Cl₂, refluxed 4 h., gives 120-50 g. of the Na salt (LIV) of 2-aminopyrene-4-sulfonic acid, fine needles; the free acid with HNO₂ gives LIII. LIV through the Sandmeyer reaction yields 3-cyanopyrene-4-sulfonic acid, whose Na salt is **light** yellow; the sulfochloride m. 265°. Pyrene-4-nitrile, (LV), pale yellow, m. 203-4°. Results in 1.2 g. yield from 3 g. pyrene-4-carboxamide and PCl₅ in C₆H₃Cl₃ or in 1.1 g. yield from 10 g. LIII and 15 g. KCN by distillation of the mixture LV and N₂H₄. H₂O, heated 2 h. at 200° (pressure, 85-100 atms.) give 4-methylpyrene, m. 143-3.5° (described by Cook and Hewett as the 1(= 3)-methylpyrene). Hexahydropyrene (LVI) (21 g.) and 16 g. Br in CS₂ at room temperature give 1-bromo-3,4,5,8,9,10-hexahydropyrene, m. 130-1°, while 50 g. LVI and 30 cc. Br in 600 cc. PhNO₂ at room temperature yield 55 g. of the 1,6-di-Br derivative (LVA), m. 194°; LVI (21 g.) in 100 cc. SO₂Cl₂ and 0.2 g. AlCl₃ at room temperature yield 16 g. of the 1,6-di-Cl derivative, m. 182-3°. LVI (21 g.) and 12 g. ClSO₃H in PhNO₂ at 16-25° give the 1-sulfonic acid (Na salt, needles); this did not yield 1-hydroxypyrene on melting with KOH or NaOH; on allowing 10 g. LVI in 100 cc. concentrated H₂SO₄ to stand overnight at room temperature there results the 1,6-disulfonic acid (di-Na salt, long needles); the alkali melt did not yield definite products. LVI (20 g.), 8 g. AcCl and 16 g. AlCl₃ in 220 cc., stirred 2 h. at room temperature, give the 1-Ac derivative (LVII), pale yellow, m. 85-6°; the concentrated H₂SO₄ solution is carmine-red; 21 g. LVI, 17 g. AcCl and 30 g. AlCl₃ in 200 cc. CS₂, 3 h. at room temperature, give 90% of the 1,6-di-Ac derivative LVIII, m. 182°; concentrated H₂SO₄ solution, golden yellow. Oxidation of LVII with hypochlorite in C₅H₅N gives hexahydropyrene-1-carboxylic acid, m. 241°, while LVIII yields the 1,6-dicarboxylic acid, yellow, m. 332° (decomposition). LVI (20 g.), 15 g. BzCl, 15 g. AlCl₃ and 200 cc. CS₂ give the 1-Bz derivative, yellow, m. 109°; 24 g. BzCl and 24 g. AlCl₃ give the 1,6-di-Bz derivative, yellow, m. 275°. LVA (90 g.) and 55 g. CuCN, boiled 1 h., give 45 g. of the 1,6-dicyano derivative (LIX), pale yellow, m. 303°; if the reaction is heated to 320-50° the product is pyrene-1,6-dinitrile (LX), m. 406° (6 g. from 20 g. LVA; it also results in 87% yield from LIX and Se in boiling N-ethylcarbazole). Hydrolysis of 26 g. LX with 50 g. KOH and 250 cc. EtOH (4 h. at 180°) gives 22 g. pyrene-1,6-dicarboxylic acid (LXI), decomps. about 420°. Addition of 29 g. LXI to a mixture of 50 g. PCl₃, 300 cc. C₆H₃Cl₃ and 20 g. Cl₂ and heating to 170-80° give the dichloride, which, reacted with C₆H₆ and AlCl₃ (1 h. boiling), gives 35 g. 1,6-dibenzoylpyrene (XLII), **light** yellow, m. 237°; there also results a compound probably 1-benzoylpyrene-6-carboxylic acid, pale yellow, m. 252°. Addition of 30 g. LXII to a melt of 700 g. AlCl₃ and 87 g. NaCl and heating to 140-50° while O₂ is passed through the mixture give 20-5 g. of 1-(CO)-10,6-(CO)-5-dibenzoylenepylene, dark red needles with metallic luster; alkaline hydrosulfite in the cold gives the dark violet Na salt of the leuco compound, which on warming gives a violet solution; this dyes cotton bluish red tones. l (100 g.) in 1 l. AcOH, treated with O₃ for 14 h. (60-90 l. of O₂ containing 1.5-3 g. O₃), the ozonide decomposed with H₂O and the **light** brown resin oxidized with HOCl, give 25-42 g. of phenanthrene-4-aldehyde-3-carboxylic acid, (LXIII), m. 276°; oxidation of 10 g. with CrO₃ in AcOH gives 5.4 g. of

phenanthrenequinone-4,5-dicarboxylic acid, yellow, m. 298° (decomposition); o-C6H4(NH2)2 gives an azine, crystallizing from PhNO2 as the anhydride, pale yellow, m. 340°. LXIII (10 g.) with alkaline KMnO4 gives 4.4 g. of diphenyl-2,2',6,6'-tetracarboxylic acid, m. 390° (decomposition). Pyrene-1,2-quinone (LXIV), golden orange, m. 310°, results in 11 g. yield on oxidizing the LXVI from 19.2 g. LXV or in 0.5 g. yield from the alkali melt of 1.5 g. LXIII; azine, yellow, m. 262°, giving a blue-green color in concentrated H2SO4; alkaline hydrosulfite gives a yellow vat, from which air ppts. LXIV. Further oxidation of LXIV with CrO3 in AcOH at 90° gives pyrene-1,2,6,7-diquinone, yellow, m. 365° (decomposition); the diphenazine derivative, **light** yellow, m. above 420°. LXIII (12.5 g.) and PhNHNH2 in AcOH give 11.3 g. of 1-hydroxy-2-phenylazopyrene (LXV), **light** red with greenish metallic luster, m. 197°; SnCl2 in HCl-AcOH gives 90% of the HCl salt, leaflets, of 1-hydroxy-2-aminopyrene (LXVI), **light** grayish yellow, does not m. 400°. LXIII (50 g.) in 400 cc. AcOH and 50 g. N2H4.H2O, refluxed 0.5 h., give 32.4 g. 1-hydroxypyrene (LXVII), brownish, m. 206-7°; it also results in about 1 g. yield by reduction of LXIV with SnCl2 in concentrated HCl-AcOH by heating in an autoclave for 5 h. at 150°; with PhN2Cl LXVII yields LXV; Ac derivative of LXVII, pale yellow, m. 113-14°. Heating 100 g. LXVII with 4 l. concentrated NH4OH and 400 cc. (NH4)2SO3 solution 8 h. at 150° gives 70-80 g. of 1-aminopyrene, **light** yellow, m. 182°. LXVII (20 g.), 300 g. 80% H2SO4 and 20 g. C3H5(OH)3, heated at 120-5° for 0.75 h., give 6 g. 1,8,9-naph-10-throne, brownish yellow, m. 243°; it also results from I, C3H5(OH)3 and H2SO4. Finally there is a discussion of the distribution of the valencies in I.

Hit Structure

CAS Registry Number
13638-82-9 CAPLUS

Chemical or Trade Name
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 56 THERE ARE 56 CAPLUS RECORDS THAT CITE THIS RECORD (56 CITINGS)

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LOGOFF? (Y)/N/HOLD:y

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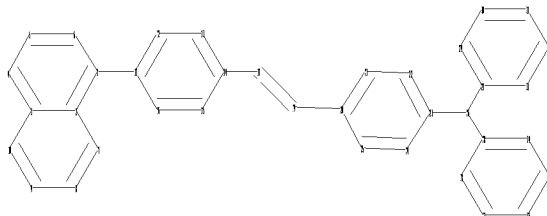
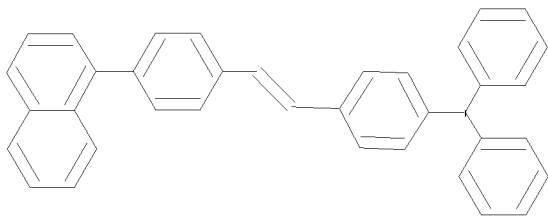
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NCE
D IBIB ABS HITSTR 1-
L9 68 SEA FILE=CAPLUS SPE=ON ABB=ON FLU=ON L7 AND LIGHT
D IBIB ABS HITSTR 1-
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* * * * * Welcome to STN International * * * * *

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ring nodes :
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L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2011 ACS on STN

Accession Number
2000:25608 CAPLUS [Full Text](#)
Document Number
132:85990

Title
Distyrylarylene derivative for organic electroluminescence device

Author/Inventor
Azuma, Hisahiro; Hosokawa, Chishio; Kusumoto, Tadashi
Patent Assignee/Corporate Source
Idemitsu Kosan Co., Ltd., Japan

Source
Jpn. Kokai Tokkyo Koho, 18 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000007604	A	20000111	JP 1998-171283	19980618

Abstract

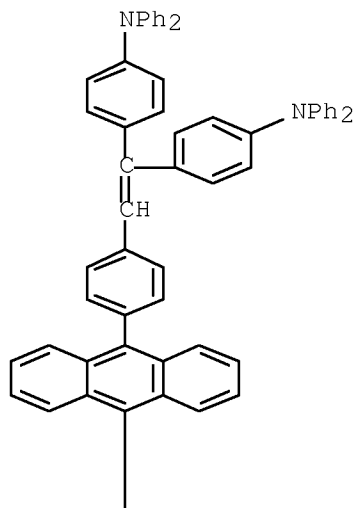
The distyrylarylene derivative has structure (R1)(R2)C=CH-Ar1-An-Ar2-CH=C(R3)(R4) (An = divalent fused ≥3 rings; Ar1-2 = single bond, C6-30 arylene, polyarylene; R1-4 = H, C6-30 allyl, polyallyl). The distyrylarylene derivative provides the improved luminescence efficiency and the decreased driving voltage.

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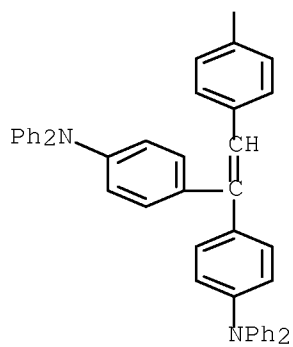
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253870-06-3 CAPLUS

Chemical or Trade Name
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PAGE 1-A



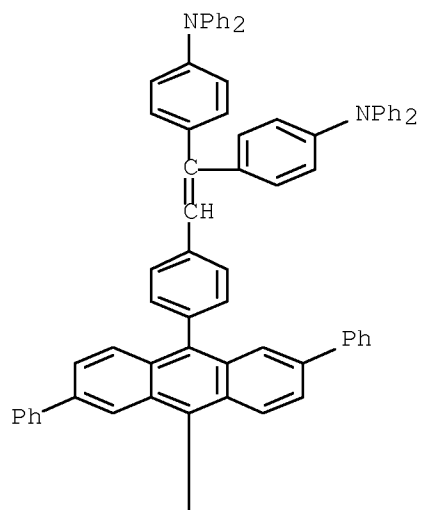
PAGE 2-A



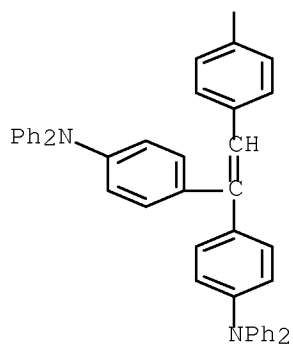
CAS Registry Number
253870-07-4 CAPLUS

Chemical or Trade Name
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PAGE 1-A

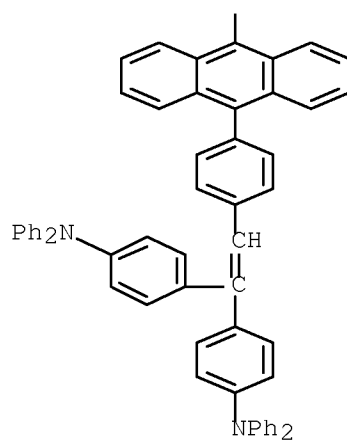
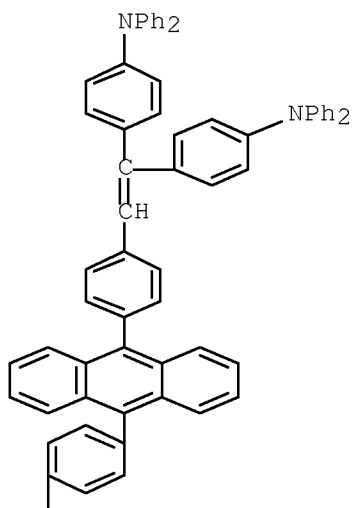


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CAS Registry Number
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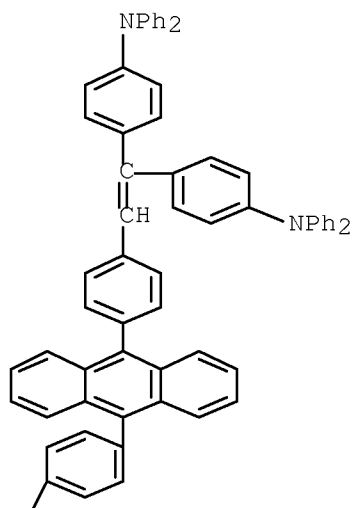
Chemical or Trade Name
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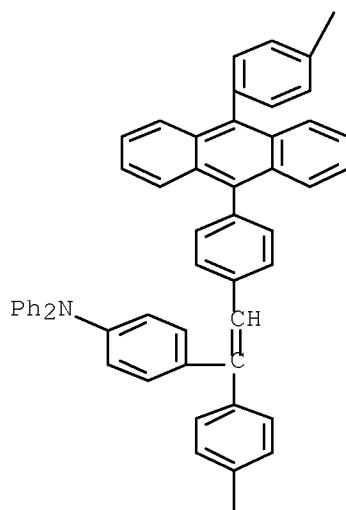
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253870-11-0 CAPLUS

Chemical or Trade Name
Benzenamine, 4,4',4'',4'''-[[1,1'-biphenyl]-4,4'-diylbis(10,9-
anthracenediyl-1,4-phenylene-2-ethenyl-1-ylidene)]tetrakis[N,N-diphenyl-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



PAGE 3-A



L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2011 ACS on STN

Accession Number

1995:336523 CAPLUS [Full-text](#)

Document Number

122:136094

Title

Azo compounds and diazonium salts and manufacture thereof

Author/Inventor

Shimoda, Masakatsu

Patent Assignee/Corporate Source

Ricoh K. K., Japan

Source

Jpn. Kokai Tokkyo Koho, 14 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06184450	A	19940705	JP 1992-354591	19921216

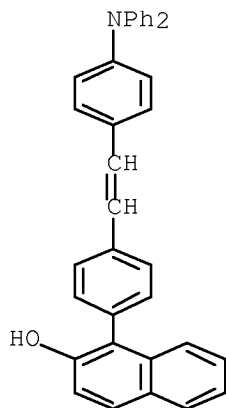
Abstract

The title azo compds. having high solubility, mol. extinction coefficient and reflectance, useful for optical recording media have the general formula p-Ph₂NC₆H₄CH:CHC₆H₄N:Q-p (Q = coupler residue). 4-Amino-4'-(diphenylamino)stilbene was diazotized and treated with NaBF₄ to give a diazonium salt which was then coupled with β-naphthol to obtain green I.

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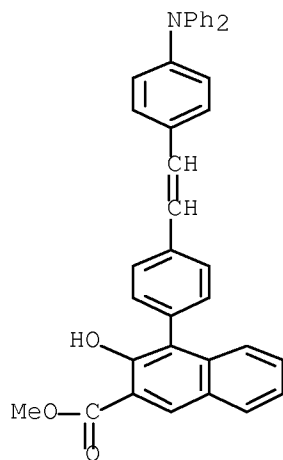
CAS Registry Number
160714-43-2 CAPLUS

Chemical or Trade Name
2-Naphthalenol, 1-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]- (CA INDEX NAME)



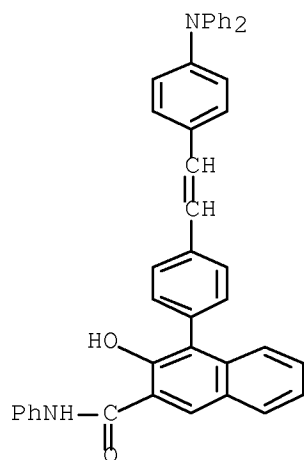
CAS Registry Number
160714-49-8 CAPLUS

Chemical or Trade Name
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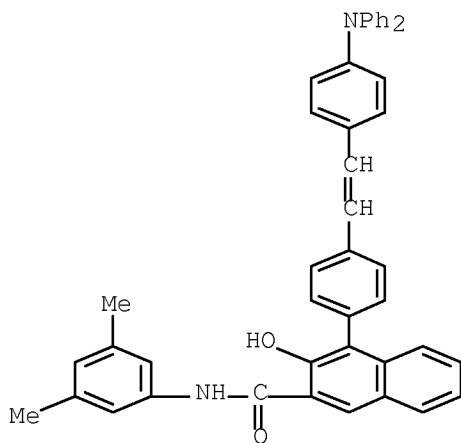
CAS Registry Number
160714-50-1 CAPLUS

Chemical or Trade Name
2-Naphthalenecarboxamide, 4-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]-
3-hydroxy-N-phenyl- (CA INDEX NAME)



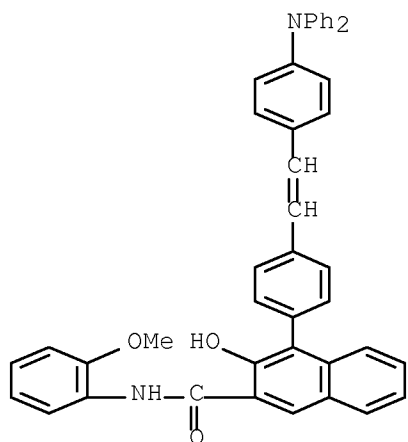
CAS Registry Number
160714-51-2 CAPLUS

Chemical or Trade Name
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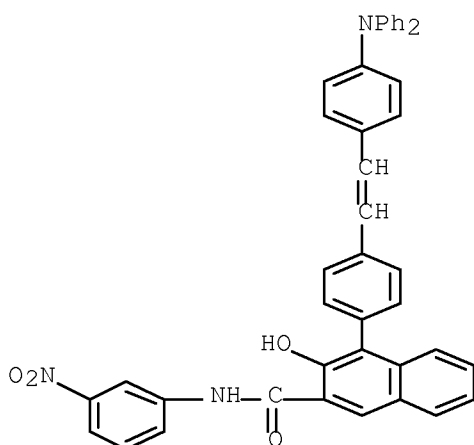
CAS Registry Number
160714-52-3 CAPLUS

Chemical or Trade Name
2-Naphthalenecarboxamide, 4-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]-
3-hydroxy-N-(2-methoxyphenyl)- (CA INDEX NAME)



CAS Registry Number
160714-53-4 CAPLUS

Chemical or Trade Name
2-Naphthalenecarboxamide, 4-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]-3-hydroxy-N-(3-nitrophenyl)- (CA INDEX NAME)



L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2011 ACS on STN

Accession Number
1987:224445 CAPLUS [Full-text](#)

Document Number
106:224445

Title
Electrophotographic charge-generating azo-photoconductors

Author/Inventor
Matsumoto, Masakazu; Umehara, Masashige; Takiguchi, Takao; Yamashita, Masataka; Ishikawa, Shozo

Patent Assignee/Corporate Source
Canon K. K., Japan

Source
Jpn. Kokai Tokkyo Koho, 23 pp. CODEN: JKXXAF

Document Type
Patent

Language
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61260251	A	19861118	JP 1985-101514	19850515
JP 03070221	B	19911106		
US 4735882	A	19880405	US 1986-846900	19860401

Abstract

The azo compds. have the formula (A-N.NZ1CH:CHZ2)N[(Z3N:N)nZ4N-N-A](Z5N:NZ6N-N-A) (I) or (A-N.NZ7CH:CHZ8)N(Z9CH:CHZ10N-N-A)(Z11N:NZ12N-N-A) (Z1-Z12 = arylene, heterocyclene; A = coupler residue having phenolic OH group; n = 0, 1). A photoconductor was prepared by dispersing in poly(vinyl butyral) binder an azo compound of the formula I (Z1 = Z2 = Z4 = Z5 = Z6 = 1,4-phenylene; n = 0; A = coupler residue from naphthol AS) to give a charge-generating layer and dispersing in PMMA binder a hydrazone compound to form a charge-transporting layer.

Hit Structure

CAS Registry Number

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D.TRIR ABB HITST 1-

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